

# Marco Netto

Researcher, Master Inventor, Manager at IBM Research, Brazil

IEEE Senior member

Ph.D. in Computer Science, Unimelb, Australia, 2010

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## In a nutshell

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Researcher working with resource management for distributed systems since 2000. Research interests are HPC, Cloud, job scheduling, scientific computing, and user-centric resource management. Research manager of the Industrial Cloud Technologies group at IBM Research Brazil, and an IBM Master Inventor. IEEE Senior member with contributions to article revision for several scientific journals and conferences in distributed systems.

## Publications

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- 2018**
- FGCS      *JobPruner: A Machine Learning Assistant for Exploring Parameter Spaces in HPC Applications.* B. Silva, M. A.S. Netto, R. L.F. Cunha. Future Generation Computer Systems (FGCS)(). 2018
- CSUR      *HPC Cloud for Scientific and Business Applications: Taxonomy, Vision, and Research Challenges.* M. A.S. Netto, R. N. Calheiros, E. R. Rodrigues, R. L.F. Cunha, R. Buyya. ACM Computing Surveys (CSUR), 51(1):8:1–8:29. 2018
- 2017**
- FGCS      *Job Placement Advisor Based on Turnaround Predictions for HPC Hybrid Clouds.* R. L.F. Cunha, E. R. Rodrigues, L. P. Tizzei, M. A.S. Netto. Future Generation Computer Systems (FGCS), 67():35–46. 2017
- 2016**
- SC-WORKS      *SLA-aware Interactive Workflow Assistant for HPC Parameter Sweeping Experiments.* B. Silva, M. A.S. Netto, R. L.F. Cunha. Proc. of the Int. Workshop on Workflows in Support of Large-Scale Science in conjunction with Int. Conf. for High Performance Computing, Networking, Storage and Analysis (SC-WORKS). 2016
- SC-HUST      *Helping HPC Users Specify Job Memory Requirements via Machine Learning.* E. R. Rodrigues, R. L.F. Cunha, M. A.S. Netto, M. Spriggs. Proc. of the Int. Workshop on HPC User Support Tools in conjunction with Int. Conf. for High Performance Computing, Networking, Storage and Analysis (SC-HUST). 2016
- FGCS      *Impact of user patience on auto-scaling resource capacity for cloud services.* M. D. de Assuncao, C. H. Cardonha, M. A.S. Netto, R. L.F. Cunha. Future Generation Computer Systems (FGCS), 55():41–55. 2016

- FGCS *Optimising Resource Costs of Cloud Computing for Education*. F. Koch, M. D. Assuncao, C. Cardonha, M. A. S. Netto. *Future Generation Computer Systems (FGCS)*, 55():473–479. 2016
- CoRR *Exploiting Workload Cycles for Orchestration of Virtual Machine Live Migrations in Clouds*. A. Baruchi, E. T. Midorikawa, L. M. Sato, M. A. S. Netto. *The Computing Research Repository (CoRR)*(). 2016
- 2015**
- Computer *Deciding When and How to Move HPC Jobs to the Cloud*. M. A. S. Netto, R. L. F. Cunha, N. Sultanum. *Computer*, 48(11):112–115. 2015
- IBM-JRD *An architecture and algorithm for context-aware resource allocation for digital teaching platforms*. F.L. Koch, M. D. de Assuncao, C. H. Cardonha, M. A. S. Netto, T. T. Primo. *IBM Journal of Research and Development (IBM-JRD)*, 59(6):1:1-1:9. 2015
- JPDC *Big Data computing and clouds: Trends and future directions*. M. D. de Assuncao, R. N. Calheiros, S. Bianchi, M. A. S. Netto, R. Buyya. *Journal of Parallel and Distributed Computing (JPDC)*, 79–80():3–15. 2015
- MASCOTS *Using Application Data for SLA-aware Auto-scaling in Cloud Environments*. A. A. D. P. Souza, M. A. S. Netto. *Proc. of the IEEE 23rd Int. Symp. on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS'15)*. 2015
- GECON *Optimizing Multi-tenant Cloud Resource Pools via Allocation of Reusable Time Slots*. L. P. Tizzei, M. A. S. Netto, S. Tao. *Proc. of the 12th Int. Conf. on Economics of Grids, Clouds, Systems, and Services (GECON'15)*. 2015
- ICSOC *An SLA-based Advisor for Placement of HPC Jobs on Hybrid Clouds*. K. Mantripragada, L. P. Tizzei, A. P. D. Binotto, M. A. S. Netto. *Proc. of the Int. Conf. on Service Oriented Computing (ICSOC'15)*. 2015
- *Application Level Monitoring and SLA Violation Detection for Multi-tenant Cloud Services*. V. C. Emeakaroha, M. A. S. Netto, I. Brandic, C. A. F. De Rose. Chapter in *Emerging Research in Cloud Distributed Computing Systems*. IGI Global. 2015
- *A Feasibility Study of Using HPC Cloud Environment for Seismic Exploration*. K. M. Mantripragada, A. P. D. Binotto, L. P. Tizzei, M. A. S. Netto. *Proc. of the 77th EAGE Conf. and Exhibition*. 2015
- *Supporting the Scheduling over Local HPC and Cloud Platforms: An FWI Case Study*. A.P.D. Binotto, L.P. Tizzei, K. Mantripragada, M.A.S. Netto. *Proc. of Second EAGE Workshop on High Performance Computing for Upstream*. 2015
- 2014**
- MASCOTS *Evaluating Auto-scaling Strategies for Cloud Computing Environments*. M. A. S. Netto, C. Cardonha, R. L. F. Cunha, M. D. de Assuncao. *Proc. of the IEEE 22nd Int. Symp. on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS'14)*. 2014

- CLOUD *Exploiting User Patience for Scaling Resource Capacity in Cloud Services.* R. L. F. Cunha, M. D. de Assuncao, C. Cardonha, M. A. S. Netto. Proc. of the 7th IEEE Int. Conf. on Cloud Computing (CLOUD'14). 2014
- CNSM *Improving Virtual Machine Live Migration via Application-level Workload Analysis.* A. Baruchi, E. Midorikawa, M. A. S. Netto. Proc. of the 10th Int. Conf. on Network and Service Management (CNSM'14). 2014
- *Challenges and Opportunities for HPC Cloud in Natural Resources.* A. C. Nogueira, A. Binotto, K. Mantripragada, L. P. Tizzei, N. Sultanum, M. A. S. Netto. Proc. of the SPE Large Scale Computing and Big Data Challenges in Reservoir Simulation Conf. & Exhibition. 2014

**2013**

- SPE *EMUSIM: an integrated emulation and simulation environment for modeling, evaluation, and validation of performance of Cloud computing applications.* R. N. Calheiros, M. A. S. Netto, C. A. F. De Rose, R. Buyya. Software: Practice and Experience (SPE), 43(5):595–612. 2013
- ICSOC *Patience-aware Scheduling for Cloud Services: Freeing Users from the Chains of Boredom.* C. Cardonha, M. D. de Assuncao, M. A. S. Netto, R. L. F. Cunha, C. Queiroz. Proc. of the 11th Int. Conf. on Service Oriented Computing (ICSOC'13). 2013
- CNSM *Leveraging Attention Scarcity to Improve the Overall User Experience of Cloud Services.* M. A. S. Netto, M. D. de Assuncao, S. Bianchi. Proc. of the IFIP 9th Int. Conf. on Network and Service Management (CNSM'03). 2013
- IM *When Cloud Virtual Machine Images Need to Be Updated.* M. A. S. Netto, M. D. de Assuncao, L. Renganarayana, C. Young. Proc. of the IFIP/IEEE Int. Symp. on Integrated Network Management (IM'13). 2013
- IM *Software Bundling Selection for Cloud Virtual Machine Images.* M. A. S. Netto, M. D. de Assuncao, L. Renganarayana, C. Young. Proc. of the IFIP/IEEE Int. Symp. on Integrated Network Management (IM'13). 2013
- AINA *Scheduling Workflows in Multi-Cluster Environments.* S. L. Stanzini, L. M. Sato, M. A. S. Netto. Proc. of the IEEE 27th Int. Conf. on Advanced Information Networking and Applications (AINA'13) Workshops. 2013

**2012**

- CCPE *Coordinated Rescheduling of Bag-of-Tasks for Executions on Multiple Resource Providers.* M. A. S. Netto, R. Buyya. Concurrency and Computation: Practice and Experience (CCPE), 24(12):1362–1376. 2012
- FGCS *Towards autonomic detection of SLA violations in Cloud infrastructures.* V. C. Emeakaroha, M. A. S. Netto, R. N. Calheiros, I. Brandic, R. Buyya, C. A. F. De Rose. Future Generation Computer Systems (FGCS), 28(7):1017–1029. 2012
- JPDC *Performance evaluation of OpenMP-based algorithms for handling Kronecker descriptors.* A. M. de Lima, M. A. S. Netto, T. Webber, R. M. Czekster, C. A. F. De Rose, P. Fernandes. Journal of Parallel and Distributed Computing (JPDC), 72(5):678–692. 2012

- NOMS *CloudAffinity: A Framework For Matching Servers to Cloudmates*. M. D. Assuncao, M. A. S. Netto, B. Peterson, L. Renganarayana, J. Rofrano, C. Ward, C. Young. Proc. of the 13th IEEE/IFIP Network Operations and Management Symp. (NOMS'12). 2012
- GECON *A Cost Analysis of Cloud Computing for Education*. F. Luiz Koch, M. D. de Assuncao, M. A. S. Netto. Proc. of the 9th Int. Conf. on Economics of Grids, Clouds, Systems, and Services (GECON'12). 2012
- CloudAM *Context-aware Job Scheduling for Cloud Computing Environments*. M. D. de Assuncao, M. A. S. Netto, F. Koch, S. Bianchi. Proc. of the Int. Workshop on Clouds and eScience Applications Management (CloudAM'12), held in conjunction with the 5th IEEE/ACM Int. Conf. on Utility and Cloud Computing (UCC 2012). 2012
- WSC *Scheduling with Preemption for Incident Management: When Interrupting Tasks is not Such a Bad Idea*. M. D. Assuncao, V. F. Cavalcante, M. A. de C. Gatti, M. A. S. Netto, C. S. Pinhanez, C. R. B. de Souza. Proc. of the Winter Simulation Conf. (WSC'12). 2012
- COMPSAC *CASViD: Application Level Monitoring for SLA Violation Detection in Clouds*. V. C. Emeakaroha, T. C. Ferreto, M. A. S. Netto, I. Brandic, C. A.F De Rose. Proc. of the 36th Annual IEEE Computer and Application Int. Conf. (COMPSAC'12). 2012
- *Achieving Flexible SLA and Resource Management in Clouds*. V. C. Emeakaroha, M. A. S. Netto, R. N. Calheiros, C. A. F. De Rose. Chapter in Achieving Federated and Self-Manageable Cloud Infrastructures: Theory and Practice. IGI Global. 2012
- 2011**
- JPDC *Use of run time predictions for automatic co-allocation of multi-cluster resources for iterative parallel applications*. M. A. S. Netto, C. Vecchiola, M. Kirley, C. A. Varela, R. Buyya. Journal of Parallel and Distributed Computing (JPDC), 71(10):1388–1399. 2011
- FGCS *Server consolidation with migration control for virtualized data centers*. T. C. Ferreto, M. A. S. Netto, R. N. Calheiros, C. A. F. De Rose. Future Generation Computer Systems (FGCS), 27(8):1027–1034. 2011
- SMTPS *Evaluating Load Generation in Virtualized Environments for Software Performance Testing*. M. A. S. Netto, S. Menon, H. V. Vieira, L. T. Costa, F. M. de Oliveira, R. Saad, A. Zorzo. Proc. of the 7th Int. Workshop on System Management Techniques, Processes, and Services (SMTPS'11), in conj with the 25th IEEE Int. Parallel and Distributed Processing Symp. (IPDPS'11). 2011
- ICSOC *CANPRO: A Conflict-Aware Protocol for Negotiation of Cloud Resources and Services*. M. A. S. Netto. Proc. of the 9th Int. Conf. on Service Oriented Computing (ICSOC'11). 2011

**2010**

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- CloudComp**      *DeSVi: An Architecture for Detecting SLA Violations in Cloud Computing Infrastructures*. V. C. Emeakaroha, R. N. Calheiros, M. A. S. Netto, I. Brandic, C. A. F. De Rose. Proc. of the 2nd Int. ICST Conf. on Cloud Computing (Cloud-Comp'10). 2010
- SBAC-PADW**      *OpenMP-based Parallel Algorithms for Solving Kronecker Descriptors*. A. M. de Lima, T. Webber, M. A. S. Netto, R. M. Czekster, C. A. F. De Rose, P. Fernandes. Proc. of the 22nd Int. Symp. on Computer Architecture and High Performance Computing Workshops (SBAC-PADW'10). 2010
- 2009**
- HCW**              *Offer-based Scheduling of Deadline-Constrained Bag-of-Tasks Applications for Utility Computing Systems*. M. A. S. Netto, R. Buyya. Proc. of the 18th Int. Heterogeneity in Computing Workshop (HCW'09), in conjunction with the 23rd IEEE Int. Parallel and Distributed Processing Symp. (IEEE IPDPS'09). 2009
- *Resource Co-allocation in Grid Computing Environments*. M. A. S. Netto, R. Buyya. Chapter in Handbook of Research on P2P and Grid Systems for Service-Oriented Computing: Models, Methodologies and Applications. 2009
- 2008**
- GRID**              *Rescheduling Co-Allocation Requests based on Flexible Advance Reservations and Processor Remapping*. M. A. S. Netto, R. Buyya. Proc. of the 9th IEEE/ACM Int. Conf. on Grid Computing (GRID'08). 2008
- 2007**
- CCGrid**              *Impact of Adaptive Resource Allocation Requests in Utility Cluster Computing Environments*. M. A. S. Netto, R. Buyya. Proc. of the Seventh IEEE Int. Symp. on Cluster Computing and the Grid (CCGrid'07). 2007
- ICSOC**              *SLA-based advance reservations with flexible and adaptive time QoS parameters*. M. A. S. Netto, K. Bubendorfer, R. Buyya. Proc. of the Int. Conf. on Service Oriented Computing (ICSOC'07). 2007
- 2006**
- MGC**              *Message Passing over Windows-based Desktop Grids*. C. Queiroz, M. A. S. Netto, R. Buyya. Proc. of the ACM/IFIP/USENIX Workshop on Middleware for the Grid (MGC'06). 2006
- HiPC**              *Message Passing over .NET-based Desktop Grids*. C. Queiroz, M. A. S. Netto, R. Buyya. Proc. of the Workshop on Cutting Edge Computing, in conjunction with the 13th IEEE Int. Conf. on High Performance Computing (HiPC'06). 2006
- 2005**
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- CCGrid *Scheduling Complex Computer Simulations on Heterogeneous Non-dedicated Machines: A Case Study in Structural Bioinformatics.* M. A. S. Netto, A. Breda, O. N. de Souza. Proc. of the 5th IEEE Int. Symp. on Cluster Computing and the Grid (CCGrid'05). 2005
- eScience *Transparent Resource Allocation to Exploit Idle Cluster Nodes in Computational Grids.* M. A. S. Netto, R. N. Calheiros, R. K. S. Silva, C. A. F. De Rose, C. Northfleet, W. Cirne. Proc. of the First IEEE Int. Conf. on e-Science and Grid Computing (eScience'05). 2005
- JSSPP *Scheduling moldable BSP tasks.* P. Dutot, M. A. S. Netto, A. Goldman, F. Kon. Proc. of the 11th Workshop on Job Scheduling Strategies for Parallel Processing (JSSPP'05). 2005
- 2003**
- ICPP *CRONO: A Configurable and Easy to Maintain Resource Manager Optimized for Small and Mid-Size GNU/Linux Cluster.* M. A. S. Netto, C. A. F. De Rose. Proc. of the 32nd Int. Conf. on Parallel Processing (ICPP'03). 2003
- ERAD *CRONO: a manager for Linux cluster machines.* M. A. S. Netto, C. A. F. De Rose. Proc. of the III Escola Regional de Alto Desempenho (ERAD'03). 2003
- WSL *GNU/Linux in IPF machines: Promise or Reality?.* R. Cassali, M. A. S. Netto, C. Oliva, A. Caringi, C. A. F. De Rose. Proc. of the IV Workshop de Software Livre (WSL'03). 2003
- 2002**
- LCI *CRONO: A Configurable Management System for Linux Clusters.* M. A. S. Netto, C. A. F. De Rose. Proc. of the Third LCI Int. Conf. on Linux Clusters: The HPC Revolution (LCI'02). 2002
- WSL *Development of Cluster Management Systems for GNU/Linux platform.* M. A. S. Netto, A. V. Barcelos, C. A. F. De Rose. Proc. of the III Workshop sobre Software Livre (WSL'02). 2002
- 2001**
- WSL *CPAD-PUCRS/HP: Linux as a Platform for Research in High Performance Computing.* T. Ferreto, F. F. Blanco, M. A. S. Netto, C. A. F. De Rose. Proc. of the the II Workshop sobre Software Livre (WSL'01). 2001

## Patents

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- Inferring Social Protocols Guiding The Use Of Portable Devices.* US9749459. 2017. **Granted**
- Resource Provisioning For Electronic Books.* US9697562. 2017. **Granted**
- Facilitating User Incident Reports.* US9633334. 2017. **Granted**
- System, Method And Program Product For Updating Virtual Machine Images.* US9600262. 2017. **Granted**
- Content Delivery Infrastructure With Non-Intentional Feedback Parameter Provisioning.* US9590875. 2017. **Granted**

- Resource Selection Advisor Mechanism*. US9535751. 2017. **Granted**
- Auto-Scaling Thresholds In Elastic Computing Environments*. US9513935. 2016. **Granted**
- Method And System For Creating And Refining Rules For Personalized Content Delivery Based On Users Physical Activities*. US9456308. 2016. **Granted**
- Facilitating User Incident Reports*. US9418354. 2016. **Granted**
- System And Method For Determining When Cloud Virtual Machines Need To Be Updated*. US9298443. 2016. **Granted**
- Adjusting Quality Of Service In A Cloud Environment Based On Application Usage*. US9294363. 2016. **Granted**
- Adjusting Quality Of Service In A Cloud Environment Based On Application Usage*. US9294362. 2016. **Granted**
- System, Method And Program Product For Allocating Resources And Services*. US9164802. 2015. **Granted**
- Data Distribution System, Method And Program Product*. US9092498. 2015. **Granted**
- System, Method And Program Product For Cost-Aware Selection Of Stored Virtual Machine Images For Subsequent Use*. US9038085. 2015. **Granted**
- Efficient Evaluation Of Network Robustness With A Graph*. US8983816. 2015. **Granted**
- System, Method And Program Product For Cost-Aware Selection Of Stored Virtual Machine Images For Subsequent Use*. US8930957. 2015. **Granted**
- System, Method And Program Product For Cost-Aware Selection Of Templates For Provisioning Shared Resources*. US8930541. 2015. **Granted**
- System, Method And Program Product For Maintaining Deployed Response Team Members Synchronized*. US8909189. 2014. **Granted**
- System, Method And Program Product For Providing Populace Movement Sensitive Weather Forecasts*. US8854219. 2014. **Granted**
- System, Method And Program Product For Optimizing Virtual Machine Placement And Configuration*. US8832239. 2014. **Granted**
- Efficient Evaluation Of Network Robustness With A Graph*. US8688420. 2014. **Granted**
- System, Method And Program Product For Local Client Device Context-Aware Shared Resource And Service Management*. US8676985. 2014. **Granted**
- System, Method And Program Product For Proactively Provisioning Emergency Computer Resources Using Geospatial Relationships*. US8635294. 2014. **Granted**
- Resource Allocation Method And System*. US8046759. 2011. **Granted**
- Inferring Social Protocols Guiding The Use Of Portable Devices*. US2017244830. **Published**
- System, Method And Program Product For Updating Virtual Machine Images*. US2017109157. **Published**
- Inferring Social Protocols Guiding The Use Of Portable Devices*. US2017099382. **Published**
- Auto-Scaling Thresholds In Elastic Computing Environments*. US2017031794. **Published**
- System And Method For Determining When Cloud Virtual Machines Need To Be Updated*. US2016216956. **Published**
- Efficient Facilitation Of Human Review And Computational Analysis*. US2016132213. **Published**
- Auto-Scaling Thresholds In Elastic Computing Environments*. US2016117180. **Published**
- Data Distribution System, Method And Program Product*. US2015220557. **Published**

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*System, Method And Program Product For Updating Virtual Machine Images.* US2015081910. *Published*

*Resource Provisioning For Electronic Books.* US2014365875. *Published*

*Resource Provisioning For Electronic Books.* US2014365342. *Published*

*Discovering Task Dependencies For Incident Management.* US2014358610. *Published*

*Discovering Task Dependencies For Incident Management.* US2014358609. *Published*

*Method And System For Creating And Refining Rules For Personalized Content Delivery Based On Users Physical Activities.* US2014357247. *Published*

*Managing Support Team Inquiries.* US2014337377. *Published*

*Managing Support Team Inquiries.* US2014337076. *Published*

*Content Delivery Infrastructure With Non-Intentional Feedback Parameter Provisioning.* US2014325068. *Published*

*Facilitating User Incident Reports.* US2014297661. *Published*

*Facilitating User Incident Reports.* US2014297660. *Published*

*Data Distribution System, Method And Program Product.* US2014236893. *Published*

*System And Method For Determining When Cloud Virtual Machines Need To Be Updated.* US2014229939. *Published*

*Data Distribution System, Method And Program Product.* US2014214583. *Published*

*Adjusting Quality Of Service In A Cloud Environment Based On Application Usage.* US2014122707. *Published*

*Adjusting Quality Of Service In A Cloud Environment Based On Application Usage.* US2014115147. *Published*

*System, Method And Program Product For Cost-Aware Selection Of Stored Virtual Machine Images For Subsequent Use.* US2014075435. *Published*

*System, Method And Program Product For Cost-Aware Selection Of Stored Virtual Machine Images For Subsequent Use.* US2014075434. *Published*

*Systems, Methods, And Computer Program Products For Prioritizing Information.* US2014067487. *Published*

*Systems, Methods, And Computer Program Products For Prioritizing Information.* US2014067486. *Published*

*System, Method And Program Product For Maintaining Deployed Response Team Members Synchronized.* US2014045446. *Published*

*System, Method And Program Product For Maintaining Deployed Response Team Members Synchronized.* US2014045445. *Published*

*System, Method And Program Product For Local Client Device Context-Aware Shared Resource And Service Management.* US2014006620. *Published*

*System, Method And Program Product For Local Client Device Context-Aware Shared Resource And Service Management.* US2014006602. *Published*

*Risk-Based Dynamic Geo-Location Based Replication Of Services In Cloud Computing.* US2013339204. *Published*

*Risk-Based Dynamic Geo-Location Based Replication Of Services In Cloud Computing.* US2013339203. *Published*

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*Efficient Evaluation Of Network Robustness With A Graph.* US2013338989. *Published*

*Efficient Evaluation Of Network Robustness With A Graph.* US2013338981. *Published*

*System, Method And Program Product For Providing Populace Movement Sensitive Weather Forecasts.* US2013285820. *Published*

*System, Method And Program Product For Cost-Aware Selection Of Templates For Provisioning Shared Resources.* US2013138812. *Published*

*System, Method And Program Product For Streamlined Virtual Machine Desktop Display.* US2013132971. *Published*

*System, Method And Program Product For Flood Aware Travel Routing.* US2013116920. *Published*

*System, Method And Program Product For Proactively Provisioning Emergency Computer Resources Using Geospatial Relationships.* US2013097249. *Published*

*System, Method And Program Product For Providing Populace Centric Weather Forecasts.* US2013085673. *Published*

*System, Method And Program Product For Optimizing Virtual Machine Placement And Configuration.* US2013080619. *Published*

*Resource Selection Advisor Mechanism.* US2013073713. *Published*

*System, Method And Program Product For Allocating Resources And Services.* US2012303719. *Published*

*System And Method For Allocating Transactions To A Plurality Of Computing Systems.* US2006218430. *Published*

*Resource Allocation Method And System.* US2006048161. *Published*

## Awards, Grants, and Scholarships

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- IBM Master Inventor	2017
- IBM Research Accomplish Award	2017
- IBM Academy of Technology Membership	2017
- IEEE Senior Membership	2016
- Outstanding Reviewer: Journal of Parallel and Distributed Computing	2015
- IBM Master Inventor	2014
- FINEP HPC-Cloud (US\$ 2.4 million) Gov. Grant	2014
- Reviewer Meritorious Award from IEEE Computer Society	2013
- IBM Research Division Award	2013
- IBM Research Accomplishment Award	2012
- 3 Finalists for the Best Practitioner Paper Award (Frontiers)	2012
- IEEE CCGrid Student Travel Scholarship	2007
- ACM Middleware Student Grant	2006
- Melbourne Intl. Research Scholarship (MIRS)	2006 – 2009
- Endeavour Intl. Postgrad. Research Scholarship (IPRS)	2006 – 2009
- Master course — Brazilian Government Agency (CAPES)	2003 – 2004
- Scholarship on High Performance Computing — Hewlett Packard	2000 – 2004

## Invited Talks

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- Career in Big Data, Mackenzie University. Invited by Organizers. Sao Paulo, Brazil. Oct. 2017.
- Great Impact Technologies, FTT. Invited by Organizers. Sao Bernardo do Campo, Brazil. Sep. 2017.
- Career in Games, Ser+. Invited by Organizers. Sao Paulo, Brazil. Jun. 2017.
- Career in IT and Innovation, UFMA, HackaTruck. Invited by Organizers. Sao Luis, Brazil. May 2017.
- Career in IT and Innovation, UFPI, Teresina, Brazil. Invited by Organizers. HackaTruck. May 2017.
- Virtualization of Network Programming: Research Challenges and Opportunities, Belem, Brazil. Invited by Organizers. SBRC. May 2017.
- Arena Santander, Sao Paulo, Brazil. Invited by Organizers. Santander. Apr. 2017.
- Career in IT and Innovation, UFRN. Invited by Organizers. Natal, Brazil. Apr. 2017.
- Professionals in Technology: The Sky is the Limit, UNIFEI. Invited by Organizers. Itabira, Brazil. Mar. 2017.
- Career in IT and Innovation, UFCG. Invited by Organizers. Campina Grande, Brazil. Mar. 2017.

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- Career in IT and Innovation, PUCRS. Invited by Tiago Ferreto. Porto Alegre, Brazil. Mar. 2017.
  - Career in IT and Innovation, UFAL, Maceio, Brazil. Invited by Organizers. HackaTruck. Mar. 2017.
  - Career in IT and Innovation, UFS, Sergipe, Brazil. Invited by Organizers. HackaTruck. Feb. 2017.
  - Career in IT and Innovation, UFT, Palmas, Brazil. Invited by Organizers. HackaTruck. Jan. 2017.
  - Tutorial: Challenges and Components to Build HPC Cloud Platforms. Invited by Organizers. SBRC - Brazilian Symposium on Computer Networks, Salvador, Brazil. Jun. 2016.
  - 2nd Informatics Symposium. Invited by Organizers. From Infrastructure to Knowledge Discovery, Passo Fundo, Brazil. Oct. 2015.
  - ERAD-RS. Invited by Organizers. Panel: Future Architectures for HPC: Challenges of Hybrid Programming, Gramado, Brazil. Apr. 2015.
  - ERAD-RS. Invited by Organizers. HPC Cloud: Research Challenges and Opportunities, Gramado, Brazil. Apr. 2015.
  - Cloud Computing. Invited by Organizers. UNIFESP - SeMaComp - Math and Computer Science Week, Sao Jose dos Campos, Brazil. Sep. 2014.
  - Innovations in IT. Invited by Organizers. Hub 2014 - Keynote, Dois Vizinhos, Brazil. Oct. 2014.
  - BDaaS - Big Data-as-a-Service. Invited by Organizers. SBRC (Brazilian Symposium on Computer Networks, Florianopolis, Brazil. May. 2014.
  - Enablement for Cloud Computing. Invited by Organizers. IEEE Cloud - Plenary Panel, Anchorage, Alaska, USA. Jul. 2014.
  - Being a Researcher: A Dream or a Nightmare. Invited by Organizers. FATEC'13, Sao Paulo, Brazil. Mar. 2013.
  - Challenges and Research Opportunities in HPC Cloud. Invited by Organizers. ERAD-SP'13, Sao Carlos, Brazil. Jul. 2013.
  - What is a Researcher: Challenges and Opportunities. Invited by Dr. Carlos Kamienski. UFABC, Santo Andre, Brazil. Apr. 2013.
  - IBM Research Lab Brazil - Building a Research Lab for a Smarter Planet. Invited by Organizers. 14th Congress of Technology of FATEC-SP, Sao Paulo, Brazil. Oct. 2012.
  - Research Challenges and Opportunities in the Area of Server Migration to Cloud Providers. Invited by Dr. Alfredo Goldman. University of Sao Paulo, Brazil. Sept. 2012.

- Being a Researcher: A Dream or a Nightmare?. Invited by Prof. Neide Itocazu and Marcia Ito. FATEC-SP, Sao Paulo, Brazil. Feb. 2012.
- Research Challenges and Opportunities in the Area of Server Migration to Cloud Providers. Invited by Organizers. ERAD'12, Campinas, Brazil. Jul. 2012.
- QoS-Aware Resource Allocation for Multi-Site Parallel Applications. Invited by Dr. Yoshio Tanaka. National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan. Oct. 2008.
- Resource Co-Allocation in Multi-Site Computing Environments. Invited by Dr. Ivona Brandic. University of Vienna, Vienna, Austria. Sept. 2007.

## Education

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- Ph.D. in Computer Science** **2006 – 2010**  
*The University of Melbourne - UniMelb, Australia*  
 Thesis: Adaptive Co-allocation of Distributed Resources for Parallel Applications  
 Supervisor: Prof. Rajkumar Buyya
- M.S. in Computer Science** **2003 – 2004**  
*PUCRS, Brazil*  
 Thesis: An Architecture for Scheduling Complex Computer Simulations on Heterogeneous Non-dedicated Machines  
 Supervisor: Dr. Osmar Norberto de Souza
- B.S. in Computer Science** **1998 – 2002**  
*PUCRS, Brazil*  
 Final project: Crono - a configurable resource manager for GNU/Linux Clusters  
 Supervisor: Dr. Cesar A. F. De Rose

## Professional Experience

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- IBM Research** **Since 2011**  
*Sao Paulo, Brazil*
- Research Staff Member
  - Research Manager (since Oct 2013)
  - IBM Master Inventor (since Oct 2014)
  - Recipient of an IBM Research Accomplishment Award
  - Research and development of Cloud Computing, HPC, and Big Data solutions
- PUCRS - Dell** **2010**  
*Porto Alegre, Brazil*
- Role: Researcher
  - Software testing
  - Virtualisation, emulation and SLA management

- Performance evaluation in virtualised environments

**The University of Melbourne**

2006 – 2010

*Melbourne, Australia*

- Role: Research assistant (2010)
- Role: PhD student (until 2010)
- Development of solutions for resource management in clusters, grids, and clouds
- Scheduling, distributed systems, negotiation protocols
- Experiments with simulations and large scale systems (e.g. Grid'5000)

**University of Sao Paulo**

2005

*Sao Paulo, Brazil*

- Role: student
- Member of the InteGrade project - Grid management system
- Scheduling of Bulk Synchronous Parallel (BSP) applications

**PUCRS - Hewlett Packard**

2000 – 2004

*Porto Alegre, Brazil*

- Role: Research and development intern
- Development of a cluster manager - Crono: <http://crono.sourceforge.net>
- Management of desktop and server machines (NIS/NFS/DNS/SAMBA/DHCP)
- Deployment of scientific applications
- Installation and maintenance of MPI environments for Ethernet/Myrinet networks
- Cross-compilers for heterogeneous clusters

**Professional Service**

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**Membership:** IEEE Senior (member since 2006)

**Journal Reviewer:**

- IEEE Transactions on Parallel and Distributed Systems
- Journal of Parallel and Distributed Computing
- Future Generation Computer Systems
- Concurrency and Computation: Practice and Experience
- Software: Practice and Experience
- IEEE Transactions on Service Computing
- IEEE Transactions on Cloud Computing
- IEEE Transactions on Computers
- Journal of Grid Computing (past)

**Conference Program Committee:**

- GECON, UCC, ASONAM, FiCloud, Xgreen, FAB, SBRC, ATC, BDSEA, GIIS, WSCAD-CTD, ERAD-SP, CloudAM, LatinCom, ASONAM 2017
- GECON, OBD, IDCS, BIDMA, FiCloud, Xgreen, FAB, SBRC, ATC, BDSEA, GIIS, WSCAD-CTD, ERAD-SP, CloudAM 2016
- IEEE SBAC-PAD, IEEE CCEM, CloudAM, GIIS, ExtremeGreen, FAB, ATC, SBRC, ODB, FiCloud, WCGA, WSCAD, BDC, GC, GIIS, IDC, CDB 2015
- GECON, IEEE FiCloud, IEEE UCC, IEEE UCC Challenge, ExtremeGreen IARIA CLOUD, WPBA, IDCS, WCGA, CSBC, IEEE CCEM, ERAD-SP 2014
- GECON, UCC, IDCS, ExtremeGreen, CloudCom, ERAD-SP 2013
- GECON, Middleware, UCC, ACC, LatinCloud, ASC, ERAD-SP 2012
- Middleware, UCC, IDCS 2011