

CURRICULUM VITAE

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Publications list

This section lists the publications of Paulo Veríssimo.

He is **author or co-author** of over 170 international refereed publications. Of these, 16 are books or book chapters, 8 are articles in collections, and 34 are articles in journals, all refereed. He is also co-author of over 20 national publications and over 125 technical reports related with the research projects he worked on.

Verissimo has currently more than 4000 **citations** to his publications, and an **H-Index** of 35, both exclusive of self-citations, computed and filtered through Google Scholar and CIDS (see below). Google Scholar Citations profile (inclusive of self-citations): <http://scholar.google.com/citations?user=aMHx8aUAAAAJ>

In case of interest, he has an **ERDÖS Number** of 3: Paul Erdős → Shmuel Zaks → Michel Raynal → Paulo Veríssimo.

Note on citations and impact

The area of Computer Science and Engineering (CSE), in contrast to more stable sciences and technological areas, is more adequately portrayed by open and electronic citation indices, namely Web-based. Closed indices, such as Thomson/Reuters's ISI, have been justifiably criticized by several bibliometry authors as having a quite poor coverage of the significant CSE publication venues, not only journals but also conferences.

In fact, it is worthwhile mentioning that in fast evolving areas as computer science and engineering, conferences end up being forums of election for quality publications and in fact being sometimes significantly more selective than journals. Conferences that qualify to compete in status (for curriculum purposes) with selective journals, so-called *heavyweight* or *highly-competitive* conferences, have a selection and publication process that vouches for the quality of the output: manuscripts reviewed in detail by 3-5 reviewers; physical PC meeting; frequent rebuttal process; average acceptance rate under 25%; substantive camera-ready, typically 8-16 pages.

After the debacle of CiteSeer, Google Scholar (GS) (<http://scholar.google.com>) is no doubt the most complete repository of academic publication entries. GS contains a subset of the citations to an individual's work, those contained in papers available electronically. GS, when directly accessed, includes garbage and self-citations (defined as citations made by any of the authors of a paper, to that paper) in its statistics, requiring filtering and post-processing, which can be done for example through public tools like CIDS (Web-based citation analysis discerning self-citations - <http://cids.fc.ul.pt/>).

Many of the publications of PJV (e.g., **SIGCOMM, FTCS, DSN, ICDCS, DISC, SRDS, RTSS**) listed are heavyweight conferences. Their impact, compared to known journals, can be easily checked by public tools like Harzing's Publish or Perish (HPP) (<http://www.harzing.com>). The number of citations and H-Index (http://en.wikipedia.org/wiki/Hirsch_number) of PJV were calculated **exclusive of self-citations** using the method above, with the following search string in CIDS: author:p-verissimo -author:paula-verissimo -author:luis-verissimo -author:l-sousa -author:j-ambrosio -author:e-pires.

N.B.- Entries marked (*) were replaced with revisions or ulterior publications (e.g. in journals). Entries marked (+) are invited and non-refereed or publications in venues without PC.

Editorials / Editoriais

[E1] Jean Arlat, Andrea Bondavalli, Boudewijn R. Haverkort, Paulo Veríssimo: Guest Editorial for the Special Issue on the 2005 IEEE/IFIP Conference on Dependable Systems and Networks, including the Dependable Computing and Communications and Performance and Dependability Symposia. *IEEE Trans. Dependable Sec. Comput.* 3(3): 169-171 (2006)

Books and book chapters / Livros e Capítulos em livros

2007---

[L16] José Rufino, João Craveiro, Paulo Veríssimo. Architecting Robustness and Timeliness in a New Generation of Aerospace Systems. *Architecting Dependable Systems VII*, LNCS 6420, Casimiro, A.; Lemos, R.d.; Gacek, C. (Eds.) 2010.

[L15] Paulo Veríssimo, Miguel Correia, Nuno Ferreira Neves, Paulo Sousa. Intrusion-Resilient Middleware Design and Validation. *Information Assurance, Security and Privacy Services (Handbooks in Information Systems, volume 4)*, Emerald Group Publishing Limited, pp. 615-678, 2009.

[L14] Antonio Casimiro and Jorg Kaiser and Paulo Veríssimo. Generic-Events Architecture: Integrating real-world aspects in event-based systems. In *Architecting Dependable Systems IV*, Rogério de Lemos, Cristina Gacek and Alexander Romanovsky (Eds.), pp. 287-315, Springer-Verlag LNCS 4615, 2007.

1996-2006

[L13] Paulo Veríssimo, Nuno Ferreira Neves, Miguel Correia. Intrusion-Tolerant Architectures: Concepts and Design. In *Architecting Dependable Systems I*, pp. 3-36, Springer-Verlag LNCS 2677, 2003. Extended version in <http://www.di.fc.ul.pt/tech-reports/03-5.pdf>.

[L12] P. Veríssimo and L. Rodrigues. *Distributed Systems for System Architects*. Book, 650 pages. Kluwer Academic Publishers, 2001.

[L11] P. Veríssimo and M. Raynal. Time in distributed system models and algorithms. In S. Krakowiak and S. Shrivastava, editors, *Advances in Distributed Systems*, LNCS 1752, Chapter 1, pages 1–132. Springer Verlag, 2000.

[L10] L. Rodrigues and P. Veríssimo. Topology-aware algorithms for large-scale communication. In S. Krakowiak and S. Shrivastava, editors, *Advances in Distributed Systems*, LNCS 1752, Chapter 6, pages 127–156. Springer-Verlag, 2000.

[L9] F. Cosquer, P. Veríssimo, S. Krakowiak, and D. Loïc. Support for distributed cscw applications. In S. Krakowiak and S. Shrivastava, editors, *Advances in Distributed Systems*, LNCS 1752, Chapter 13, pages 1–132. Springer Verlag, 2000.

1981-1995

[L8] Hermann Kopetz and Paulo Veríssimo. Real-time and Dependability Concepts. In S.J. Mullender, editor, *Distributed Systems*, 2nd Edition, Chapter 16, pages 411–446. Addison-Wesley, 1993.

[L7] Paulo Veríssimo. Real-time Communication. In S.J. Mullender, editor, Distributed Systems, 2nd Edition, Chapter 17, pages 447–490. Addison-Wesley, 1993.

[L6] Paulo Veríssimo and Hermann Kopetz. Design of real-time systems. In S.J. Mullender, editor, Distributed Systems, 2nd Edition, Chapter 19, pages 491–536. Addison-Wesley, 1993.

[L5] P. Bond, D. Seaton, and P. Veríssimo. Real-time Concepts. In D. Powell, editor, DELTA-4 - A Generic Architecture for Dependable Distributed Computing, ESPRIT Research Reports, Chapter 5, pages 89–124. Springer Verlag, November 1991.

[L4] David Powell and Paulo Veríssimo. Distributed fault-tolerance. In D. Powell, editor, DELTA-4 - A Generic Architecture for Dependable Distributed Computing, ESPRIT Research Reports, Chapter 6, pages 89–124. Springer Verlag, November 1991.

[L3] Paulo Veríssimo, P. Barrett, P. Bond, A. Hilborne, L. Rodrigues, and D. Seaton. The Extra Performance Architecture (XPA). In D. Powell, editor, DELTA-4 - A Generic Architecture for Dependable Distributed Computing, ESPRIT Research Reports, Chapter 9, pages 211–266. Springer Verlag, November 1991.

[L2] Paulo Veríssimo, L. Rodrigues, and J. Rufino. The Atomic Multicast protocol (AMp). In D. Powell, editor, DELTA-4 - A Generic Architecture for Dependable Distributed Computing, ESPRIT Research Reports, Chapter 10, pages 267–294. Springer Verlag, November 1991.

[L1*] D. Powell, editor. "DELTA-4 Overall System Specification", Esprit Project Reports, DELTA-4, May 1988 (co-author).

Articles in scientific journals / Artigos em revistas científicas

2007----

[J34] Paulo Verissimo, Alysson Bessani, "E-biobanking: What Have You Done to My Cell Samples?", IEEE Security & Privacy, vol. 11, no. 6, pp. 62–65, Dec. 2013.

[J33] Miguel Correia, Nuno Ferreira Neves, Paulo Verissimo, "BFT-TO: Intrusion Tolerance with Less Replicas", The Computer Journal, vol. 56, no. 6, pp. 693–715, Jun. 2013.

[J32] Giuliana Santos Veronese, Miguel Correia, Alysson Bessani, Lau Cheuk Lung, Paulo Verissimo, "Efficient Byzantine Fault-Tolerance", IEEE Transactions on Computers, vol. 62, no. 1, pp. 16–30, Jan. 2013.

[J31] Mônica Dixit, António Casimiro, Paulo Veríssimo, Paolo Lollini, Andrea Bondavalli. Adaptare: Supporting automatic and dependable adaptation in dynamic environments. ACM Transactions on Autonomous and Adaptive Systems vol. 7, no. 2, pp. 18:1–18:25, Jul. 2012. <http://doi.acm.org/10.1145/2240166.2240168>.

[J30] Henrique Moniz, Nuno Neves, Miguel Correia, Paulo Verissimo. Randomization Can Be a Healer: Consensus with Dynamic Omission Failures, Distributed Computing, 24(3-4), pp. 165-175, 2011

[J29] Henrique Moniz, Nuno Ferreira Neves, Miguel Correia, Paulo Veríssimo. RITAS: Services for Randomized Intrusion Tolerance. IEEE Transactions on Dependable and Secure Computing, vol. 8 no. 1, pp. 122-136, Jan-Feb 2011.

[J28] João Antunes, Nuno Ferreira Neves, Miguel Correia, Paulo Veríssimo, Rui Neves. Vulnerability Removal with Attack Injection. IEEE Transactions on Software Engineering, Special issue on Evaluation and Improvement of Software Dependability. 2010.

[J27] Paulo Sousa, Alysson Bessani, Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo. Highly Available Intrusion-Tolerant Services with Proactive-Reactive Recovery. *IEEE Transactions on Parallel and Distributed Systems*, vol. 21, no. 4, pp. 452-465, Apr. 2010. <http://doi.ieeecomputersociety.org/10.1109/TPDS.2009.83>.

[J26] Francisco M Couto, Tiago Grego, Catia Pesquita, Paulo Veríssimo. Handling self-citations using Google Scholar. *International Journal of Scientometrics, Informetrics and Bibliometrics*, 13:2, 2009.

[J25] Miguel Correia, Alysson Neves Bessani, Paulo Veríssimo: On Byzantine generals with alternative plans. *J. Parallel Distrib. Comput.* 68(9): 1291-1296 (2008).

[J24] Alysson Bessani, Paulo Sousa, Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo. The CRUTIAL Way of Critical Infrastructure Protection. *IEEE Security and Privacy*, vol. 6, no. 6, pp. 44-51, Nov/Dec 2008.

[J23] Paulo Veríssimo, Nuno Ferreira Neves, Miguel Correia, Y. Deswarte, A. Abou El Kalam, Andrea Bondavalli, Alessandro Daidone. The CRUTIAL Architecture for Critical Information Infrastructures. *Architecting Dependable Systems V, LNCS 5135*, Lemos, R.d.; Di Giandomenico, F.; Gacek, C.; Muccini, H.; Vieira, M. (Eds.) 2008.

[J22] Alessandro Daidone, Silvano Chiaradonna, Andrea Bondavalli, Paulo Veríssimo. Analysis of a Redundant Architecture for Critical Infrastructure Protection. *Architecting Dependable Systems V, LNCS 5135*, Lemos, R.d.; Di Giandomenico, F.; Gacek, C.; Muccini, H.; Vieira, M. (Eds.) 2008.

[J21] Paulo Veríssimo, Nuno Ferreira Neves, Miguel Correia. The CRUTIAL Reference Critical Information Infrastructure Architecture: A Blueprint. *International Journal of System of Systems Engineering*. 2008.

[J20+] Steven M. Bellovin, Terry V. Benzel, Bob Blakley, Dorothy E. Denning, Whitfield Diffie, Jeremy Epstein, Paulo Veríssimo. Information Assurance Technology Forecast 2008. *IEEE Security & Privacy*, vol. 6, no. 1, pp. 10-17, January/February, 2008.

[J19] Gunjan Khanna, Mike Yu Cheng, Padma Varadharajan, Saurabh Bagchi, Miguel Correia, Paulo Veríssimo. Automated Rule-Based Diagnosis Through A Distributed Monitor System. *IEEE Transactions on Dependable and Secure Computing*, vol. 4, no. 4, pp. 266-279, Oct-Dec, 2007.

[J18] Worm-IT - A Wormhole-based Intrusion-Tolerant Group Communication System. Miguel Correia, Nuno Ferreira Neves, Lau Cheuk Lung, Paulo Veríssimo. *Journal of Systems & Software*, vol. 80, n. 2, pages 178-197, Elsevier, February 2007.

1996-2006

[J17] Intrusion-Tolerant Middleware: The Road to Automatic Security. Paulo Veríssimo, Nuno Ferreira Neves, C. Cachin, J. A. Poritz, D. Powell, Y. Deswarte, R. J. Stroud, I. S. Welch. *IEEE Security & Privacy*, vol. 4, no. 4, pp. 54-62, Jul./Aug. 2006.

[J16] Travelling through Wormholes: a new look at Distributed Systems Models. Paulo Veríssimo. *SIGACT News*, vol. 37, no. 1, pages 66-81, 2006.

[J15] Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo. From Consensus to Atomic Broadcast: Time-Free Byzantine-Resistant Protocols without Signatures. *Computer Journal*, vol. 41, n. 1, pp 82-96, January 2006.

[J14] Paul Caspi, Alberto L. Sangiovanni-Vincentelli, Luís Almeida, Albert Benveniste, Bruno Bouyssounouse, Giorgio C. Buttazzo, Ivica Crnkovic, Werner Damm, Jakob Engblom, Gerhard Fohler, Marisol García-Valls, Hermann Kopetz, Yassine Lakhnech, François Laroussinie, Luciano

Lavagno, Giuseppe Lipari, Florence Maraninchi, Philipp Peti, Juan Antonio de la Puente, Norman Scaife, Joseph Sifakis, Robert de Simone, Martin Törngren, Paulo Veríssimo, Andy J. Wellings, Reinhard Wilhelm, Tim A. C. Willemse, Wang Yi: Guidelines for a graduate curriculum on embedded software and systems. *ACM Trans. Embedded Comput. Syst.* 4(3): 587-611 (2005).

[J13] Nuno F. Neves, Miguel Correia, and Paulo Veríssimo. Solving Vector Consensus with a Wormhole. *IEEE Transactions on Parallel and Distributed Systems*, vol. 16, no. 12, pp. 1120-1131, December 2005.

[J12] Pedro Martins, Paulo Sousa, António Casimiro, Paulo Veríssimo, A New Programming Model for Dependable Adaptive Real-Time Applications. *IEEE Distributed Systems Online*, vol. 6, no. 5, 2005.

[J11] Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo, Lau Cheuk Lung, Low Complexity Byzantine-Resilient Consensus. *Distributed Computing*, vol. 17, n. 3, pp. 237–249, March 2005. <http://www.springerlink.com/index/10.1007/s00446-004-0110-7>

[J10] Paulo Veríssimo, António Casimiro, The Timely Computing Base Model and Architecture. *IEEE Transactions on Computers - Special Issue on Asynchronous Real-Time Systems*, vol. 51, n. 8, August 2002.

[J9] L. Rodrigues, K. Guo, P. Veríssimo e K. Birman. A Dynamic Light-Weight Group Service. In *Journal of Parallel and Distributed Computing*, Academic Press. December 2000.

[J8] A. Mostefaoui, M. Raynal, and P. Veríssimo. The logically instantaneous communication mode: a communication abstraction. *Future Generation Computer Systems*, 2000.

[J7] P. Veríssimo, L. Rodrigues, and A. Casimiro. Cesiumspray: a precise and accurate global clock service for large-scale systems. *Journal of Real-Time Systems*, 12(3):243–294, 1997.

[J6] P. Veríssimo. Causal Delivery Protocols in Real-time Systems: a Generic Model. *Journal of Real-Time Systems*, 10(1):45–73, January 1996.

1981-1995

[J5] Paulo Veríssimo and Carlos Almeida. Quasi-synchronism: a step away from the traditional fault-tolerant real-time system models. *Bulletin of the Technical Committee on Operating Systems and Application Environments (TCOS)*, 7(4):35–39, Winter 1995.

[J4] P. Veríssimo. Ordering and timeliness requirements of dependable real-time programs. *Journal of Real-Time Systems, Kluwer Eds.*, (7):105–128, 1994. Also as INESC AR/14-94.

[J3] Luis Rodrigues, P. Veríssimo. *Reliable Broadcast: a survey*. INESC Journal of R & D, VOL.1, nr 1, 1990.

[J2] "Sistemas Distribuidos na Automatização Industrial", *Revista de Informática*, Vol.6, Nr.6, November 1987.

[J1] P. Veríssimo, A.Anunciada, "Estabilizador de tensão para Redes Rurais", *Revista Electricidade*, nr 171, pp.5-10, JAN 82.

Articles in collections / Artigos em colectâneas

2007----

[A8] Paulo Veríssimo. Assumptions: The Trojan Horses of Secure Protocols. In V. Gorodetsky, I. Kottenko, and V.A. Skormin (Eds.), *Computer Network Security. Communications in Computer*

and Information Science, 2007, Volume 1, Part 1, Part 1, 34-41, DOI: 10.1007/978-3-540-73986-9_3. ("Mathematical Methods, Models and Architectures for Computer Networks Security" (MMM-ACNS) 2007) Springer-Verlag.

1996-2006

[A7] Uncertainty and Predictability: Can they be reconciled? Paulo Veríssimo. Future Directions in Distributed Computing, pp. 108-113, Springer Verlag LNCS 2584, May, 2003.

[A6] J. Rufino, P. Veríssimo, and G. Arroz. Design of bus media redundancy in CAN. In D. Dietrich, P. Neumann, and H. Schweinzer, editors, *Fieldbus Technology - System Integration, Networking and Engineering*, pages 375–380. FeT'99, Magdeburg, Germany. Springer, September 1999.

[A5] François J.N. Cosquer, Pedro Antunes, and Paulo Veríssimo. Enhancing dependability of cooperative applications in partitionable environments. In *Dependable Computing - EDCC-2*, volume 1150 of *Lecture Notes in Computer Science*, Chapter 6, pages 335–352. Springer-Verlag, October 1996.

1981-1995

[A4] D. Powell, D. Seaton, G. Bonn, P. Veríssimo, and F. Waeselynk. The Delta-4 approach to dependability in open distributed computing systems. In N. Suri, C. Walter, and M. Hugue, editors, *Advances in Ultra-Dependable Distributed Systems*. IEEE Computer Society Press, 1995. Reprinted from Digest of Papers, The 18th IEEE International Symposium on Fault-Tolerant Computing, Tokyo - Japan, June 1988.

[A3] Paulo Veríssimo, Luis Rodrigues. Reliable multicasting in high-speed lans. In *High-Capacity Local and Metropolitan Area Networks*, pages 397–412, Springer Verlag, NATO ASI Series, Volume F72, 1991.

[A2] M. Baptista, S. Graf, J.L. Richier, L. Rodrigues, C. Rodriguez, P. Veríssimo e J. Voiron. Formal specification and verification of a network independent atomic multicast protocol. In J. Quemada, J. Mañas, e E. Vazques, editores, *FORMAL DESCRIPTION TECHNIQUES, III*, pages 345–352, North-Holland, 1991. Also as INESC AR/64-91.

[A1] David Powell, Peter Barret, Gottfried Bonn, Marc Chereque, Douglas Seaton, P.Veríssimo. The Delta-4 Distributed Fault-Tolerant Architecture. In T. L. Casavant e M. Singhal, eds., *Readings in Distributed Computing Systems*, IEEE Computer Society Press, 1993.

Publications in international conferences and workshops / Publicações em Conferências, Workshops e Org. Internacionais

2006----

[P117] Diego Kreutz, Fernando Ramos, Paulo Verissimo, "Towards Secure and Dependable Software-Defined Networks", in ACM SIGCOMM Workshop on Hot Topics in Software Defined Networking (HotSDN), Hong Kong, China, Aug. 2013.

[P116+] Amir Soltani Nezhad, António Casimiro, Paulo Verissimo, "A Multi-Layered Architecture for a Secure Virtualization Environment", in Fast Abstract at the 2012 International Conference on Dependable Systems and Networks, Boston, MA, USA, June 2012.

[P115] António Casimiro, Paulo Verissimo, Diego Kreutz, Filipe Araújo, Raul Barbosa, Samuel Neves, Bruno Sousa, Marília Curado, Carlos Silva, Rajeev Gandhi, Priya Narasimhan, “TRONE: Trustworthy and Resilient Operations in a Network Environment”, in Workshops of IEEE/IFIP 42nd International Conference on Dependable Systems and Networks (DSN-W), 2012, Boston, MA, USA, Jun. 2012, pp. 1–6. <http://dx.doi.org/10.1109/DSNW.2012.6264694>

[P114] Miguel Correia, Pedro Costa, Marcelo Pasin, Alysson Bessani, Fernando Ramos, Paulo Verissimo, “On the Feasibility of Byzantine Fault-Tolerant MapReduce in Clouds-of-Cloud”, in First International Workshop on Dependability Issues in Cloud Computing (DISCCO 2012), San Francisco, California, 2012.

[P113] Paulo Verissimo, Alysson Bessani and Marcelo Pasin. The TClouds Architecture: Open and Resilient Cloud-of-Clouds Computing. Proceedings of the 2nd International Workshop on Dependability of Clouds, Data Centers and Virtual Machine Technology (DCDV'12), DSN'12 supplemental volume, Boston, USA, June 2012.

[P112] Bernhard Kauer, Paulo Verissimo, Alysson Bessani. Recursive Virtual Machines for Advanced Security Mechanisms. Proceedings of the 1st International Workshop on Dependability of Clouds, Data Centers and Virtual Computing Environments (DCDV'11), DSN'11 supplemental volume, Hong Kong, China, June 2011.

[P111] J. Rufino, P. Verissimo, R. Pinto, C. Almeida, G. Arroz. Enforcing Dependability and Timeliness in CANELy: Application to Spaceborne Data Communication Systems. Proceedings of the 1st International Conference on Pervasive and Embedded Computing and Communication Systems (PECCS 2011), Vilamoura, Portugal, March 2011.

[P110] José Rufino, João Craveiro, Paulo Verissimo. Building a time- and space-partitioned architecture for the next generation of space vehicle avionics. Proceedings of the 8th IFIP Workshop on Software Technologies for Future Embedded and Ubiquitous Systems (SEUS 2010), LNCS 6399, S.L. Min et al. (Eds.), Waidhofen an der Ybbs, Austria, Oct. 2010.

[P109+] João Antunes, Nuno Ferreira Neves, Paulo Verissimo. Using Attack Injection on Closed Protocols. Fast Abstract in Supplement of the International Conference on Dependable Systems and Networks DSN'10. July, 2010. Chicago, USA.

[P108] Paulo Verissimo. Security made not Perfect but Automatic. Eighteenth International Workshop on Security Protocols, Cambridge U. April 2010. Cambridge, England.

[P107] António Casimiro, José Rufino, Luís Marques, Mário Calha, Paulo Verissimo. Applying architectural hybridization in networked embedded systems. Proceedings of the 7th IFIP WG 10.2 International Workshop (SEUS 2009), Software Technologies for Embedded and Ubiquitous Systems, LNCS 5860, Sunggu Lee and Priya Narasimhan (Eds). November 2009. Newport Beach, CA, USA.

[P106] Randomization can be a Healer: Consensus with Dynamic Omission Failures. Henrique Moniz, Nuno Ferreira Neves, Miguel Correia, Paulo Verissimo. Proceedings of the 23rd International Symposium on Distributed Computing (DISC 2009), pages 63-77, Elche/Elx, Spain, September 2009.

[P105] Paulo Verissimo, Alysson Bessani, Miguel Correia, Nuno Ferreira Neves, Paulo Sousa. Designing Modular and Redundant Cyber Architectures for Process Control: Lessons learned. Proceedings of the 42nd Hawaii International Conference for the Systems Sciences (HICSS-42), Waikoloa, Hawaii, January 2009.

[P104] João Antunes, Nuno Ferreira Neves, and Paulo Verissimo. Detection and Prediction of Resource-Exhaustion Vulnerabilities. In Proceedings of the 19th International Symposium on Software Reliability Engineering (ISSRE '08). Washington, USA. IEEE CS, pp.87-96. DOI=10.1109/ISSRE.2008.47 <http://dx.doi.org/10.1109/ISSRE.2008.47>

[P103] António Casimiro, Paolo Lollini, Mônica Dixit, Andrea Bondavalli, Paulo Veríssimo. A framework for dependable QoS adaptation in probabilistic environments. Proceedings of the 23rd ACM Symposium on Applied Computing, Dependable and Adaptive Distributed Systems Track, Fortaleza, Ceara, Brazil, March 2008.

[P102] Giuliana Santos Veronese, Miguel Correia, Lau Cheuk Lung, Paulo Veríssimo: Finite Memory: A Vulnerability of Intrusion-Tolerant Systems. Network Computing and Applications, NCA 2008. pp:37-44. Cambridge USA. July 2008.

[P101] Hugo Ortiz, Antonio Casimiro, Paulo Veríssimo: Architecture and Implementation of an Embedded Wormhole. Proceedings of SIES 2007, the Symposium on Industrial Embedded Systems, 341-344, IEEE Industrial Electronics Society, Lisboa, Portugal, July 2007.

[P100] Paulo Sousa, Alysso Bessani, Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo. Resilient Intrusion Tolerance through Proactive and Reactive Recovery. Proceedings of the 13th IEEE Pacific Rim International Symposium on Dependable Computing (PRDC 07), Melbourne, Australia, December 2007.

[P99] Henrique Moniz, Nuno Ferreira Neves, Miguel Correia, Paulo Veríssimo. Intrusion Tolerance in Wireless Environments: An Experimental Evaluation. Proceedings of the 13th IEEE Pacific Rim International Symposium on Dependable Computing (PRDC 07), Melbourne, Australia, December 2007.

[P98] Giuliana Santos, Miguel Correia, Lau Cheuk Lung, Paulo Veríssimo. On the Effects of Finite Memory on Intrusion-Tolerant Systems. Proceedings of the 13th IEEE Pacific Rim International Symposium on Dependable Computing (PRDC 07), Melbourne, Australia, December 2007.

[P97] João Antunes, Nuno Ferreira Neves, Paulo Veríssimo. Finding Local Resource Exhaustion Vulnerabilities. Student paper in Proceedings of the International Symposium on Software Reliability Engineering (ISSRE), Trollhättan, Sweden, November 2007.

[P96] Alysso Bessani, Miguel Correia, Henrique Moniz, Nuno Ferreira Neves, Paulo Veríssimo. When $3f+1$ is not Enough: Tradeoffs for Decentralized Asynchronous Byzantine Consensus. Brief Announcement, Proceedings of 21st International Symposium on Distributed Computing (DISC 07), Lemesos, Cyprus, September 2007.

[P95] Paulo Sousa, Nuno Ferreira Neves, Paulo Veríssimo. Hidden Problems of Asynchronous Proactive Recovery. To appear in the Third Workshop on Hot Topics in System Dependability (HotDep 2007). Edinburgh, UK, June 2007.

[P94] José Rufino, Paulo Veríssimo, Carlos Almeida, Guilherme Arroz: Integrating Inaccessibility Control and Timer Management in CANELY. Proceedings of 11th IEEE International Conference on Emerging Technologies and Factory Automation, ETFA 2006, September, 2006, Prague, Czech Republic, 348-355.

[P93] António Casimiro, Odorico Mendizabal, Paulo Veríssimo. On the development of dependable embedded applications using specialized wormholes. 3rd International Workshop on Dependable Embedded Systems (WDES-06), in conjunction with the 25th Symposium on Reliable Distributed Systems, Leeds, UK, October 2006.

[P92] Proactive Resilience Revisited: The Delicate Balance Between Resisting Intrusions and Remaining Available. Paulo Sousa, Nuno Ferreira Neves, Paulo Veríssimo, William H. Sanders. Proceedings of the 25th IEEE Symposium on Reliable Distributed Systems (SRDS), Leeds, UK, pages 71-80, October 2006.

[P91] Experimental Comparison of Local and Shared Coin Randomized Consensus Protocols. Henrique Moniz, Nuno Ferreira Neves, Miguel Correia, Paulo Veríssimo. Proceedings of the 25th IEEE Symposium on Reliable Distributed Systems (SRDS), Leeds, UK, October 2006.

[P90*] CRUTIAL: The Blueprint of a Reference Critical Information Infrastructure Architecture. Paulo Veríssimo, Nuno Ferreira Neves, Miguel Correia. Proceedings of the 1st International Workshop on Critical Information Infrastructures @ ISC'06, Samos - Greece, August 2006.

[P89+] Thou Shalt Not Trust non-Trustworthy Systems. Paulo Veríssimo. Keynote at the Workshop on Assurance in Distributed Systems and Networks (ADSN2006), with the 26th IEEE International Conference on Distributed Computing Systems (ICDCS 2006), Lisboa, Portugal, July 2006.

[P88] Nuno Ferreira Neves, João Antunes, Miguel Correia, Paulo Veríssimo, Rui Neves, Using Attack Injection to Discover New Vulnerabilities, in Proceedings of the International Conference on Dependable Systems and Networks, Philadelphia, USA, June 2006.

[P87] Henrique Moniz, Nuno Ferreira Neves, Miguel Correia, Paulo Veríssimo, Randomized Intrusion-Tolerant Asynchronous Services, in Proceedings of the International Conference on Dependable Systems and Networks, Philadelphia, USA, June 2006.

[P86] Proactive Resilience through Architectural Hybridization. Paulo Sousa, Nuno Ferreira Neves, Paulo Veríssimo. In Proceedings of the Dependable and Adaptive Distributed Systems (DADS) Track of the 21st ACM Symposium on Applied Computing, ACM, Dijon, France, 2006.

[P85] Critical Utility Infrastructure Resilience. G. Dondossola, G. Deconinck, F. Di Giandomenico, S. Donatelli, M. Kaaniche, Paulo Veríssimo In Workshop on Security and Networking in Critical Real-Time and Embedded Systems (CRTES'06), with RTAS'06, San Jose, California, USA, April 2006.

1996-2005

[P84] Resilient State Machine Replication. Paulo Sousa, Nuno Ferreira Neves, Paulo Veríssimo. To appear in Proceedings of the PRDC 2005, Pacific Rim International Symposium on Dependable Computing, IEEE, Changsha, China, 2005.

[P83] How Resilient are Distributed Fault/Intrusion-Tolerant Systems? Paulo Sousa, Nuno Ferreira Neves, Paulo Veríssimo. In Proceedings of the 2005 International Conference on Dependable Systems and Networks (DSN'05). Yokohama, Japan, pages 98-107, June 2005.

[P82] A New Approach to Proactive Recovery, Paulo Sousa, Nuno Ferreira Neves, Paulo Veríssimo. In Fifth European Dependable Computing Conference (EDCC-5) Supplemental Volume. Budapest, Hungary, pages 35-40, April 2005.

[P81] Luis Sardinha, Nuno Ferreira Neves, Paulo Veríssimo, Tolerating Intrusions in Grid Systems. Proceedings of the 2004 International Conference on Security and Management (SAM), 207-220, Las Vegas, USA, June, 2004.

[P80] How to Tolerate Half Less One Byzantine Nodes in Practical Distributed Systems. Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo. In Proceedings of the 23rd IEEE Symposium on Reliable Distributed Systems. Florianopolis, Brasil, pages 174-183, October 2004.

[P79] An Intrusion-Tolerant Web Server based on the DISTRACT Architecture. Rafael Ferraz, João Sequeira, Bruno Gonçalves, Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo. In Workshop on Dependable Distributed Data Management, Florianopolis, Brasil, pages 45-50, October 2004.

[P78] Dependable Adaptive Real-Time Applications in Wormhole-based Systems. Pedro Martins, Paulo Sousa, António Casimiro, Paulo Veríssimo. Proceedings of the International Conference on Dependable Systems and Networks (DSN'04), Florence, Italy, June 2004

[P77] Wormhole-Aware Byzantine Protocols. Nuno Ferreira Neves, Miguel Correia, Paulo Veríssimo. 2nd Bertinoro Workshop on Future Directions in Distributed Computing: Survivability - Obstacles and Solutions (FuDiCo: SOS), Bertinoro, Italy, June, 2004.

[P76] An Architectural Framework and a Middleware for Cooperating Smart Components. António Casimiro, J. Kaiser, Paulo Veríssimo. Proceedings of the First Conference on Computing Frontiers, Ischia, Italy, April 2004.

[P75] José Rufino, Paulo Veríssimo, and Guilherme Arroz. Node failure detection and membership in CANELY. In Proceedings of the 2003 Int'l Conference on Dependable Systems and Networking (DSN 2003), pages 331–340, S. Francisco, USA, June 2003.

[P74] An architecture to support interaction via Generic Events. Paulo Veríssimo, J. Kaiser, António Casimiro. 24th IEEE Real-time Systems Symposium, Work in Progress Proceedings, Cancun, Mexico, December 2003.

[P73] A Simple Intrusion-Tolerant Reliable Multicast Protocol using the TTCB Model. Miguel Correia, Lau Cheuk Lung, Nuno Ferreira Neves, Paulo Veríssimo. Proceedings of the 21st Brazilian Computer Networks Symposium, Natal, Brasil, May 2003.

[P72] Event-Driven Support of Real-Time Sentient Objects. Paulo Veríssimo, António Casimiro. Proceedings of the Eighth IEEE International Workshop on Object-oriented Real-time Dependable Systems (WORDS 2003), Guadalajara, Mexico, Jan 2003.

[P71] Towards a cooperating autonomous car. Paulo Sousa, Paulo Veríssimo. Proceedings of the 7th CaberNet Radicals Workshop, Bertinoro, Italy, Oct 2002.

[P70] The Timely Computing Base and its Future Trends. Pedro Martins, Paulo Veríssimo. Proceedings of the 7th CaberNet Radicals Workshop, Bertinoro, Italy, Oct. 2002.

[P69] The Design of a COTS Real-Time Distributed Security Kernel. Miguel Correia, Paulo Veríssimo, Nuno Ferreira Neves. Fourth European Dependable Computing Conference, Toulouse, France, October 2002 © Springer-Verlag, <http://www.springer.de/comp/Incs/>

[P68] Efficient Byzantine-Resilient Reliable Multicast on a Hybrid Failure Model. Miguel Correia, Lau Cheuk Lung, Nuno Ferreira Neves, Paulo Veríssimo. Proceedings of the 21st Symposium on Reliable Distributed Systems (SRDS'2002), Suita, Japan, October 2002.

[P67] Generic Timing Fault Tolerance using a Timely Computing Base. António Casimiro, Paulo Veríssimo. Proceedings of the International Conference on Dependable Systems and Networks, Washington D.C., USA, June 2002.

[P66] CORTEX: Towards Supporting Autonomous and Cooperating Sentient Entities. Paulo Veríssimo, V. Cahill, António Casimiro, K. Cheverst, A. Friday, J. Kaiser. Proceedings of European Wireless 2002, Florence, Italy, February 2002.

[P65] The Architecture of a Secure Group Communication System Based on Intrusion Tolerance. Miguel Correia, Paulo Veríssimo, Nuno Ferreira Neves. in Proceedings of the International Workshop on Applied Reliable Group Communication, Phoenix, Arizona, USA, April 2001.

[P64] Using the Timely Computing Base for Dependable QoS Adaptation. António Casimiro, Paulo Veríssimo. Proceedings of the 20th IEEE Symposium on Reliable Distributed Systems, New Orleans, USA, October 2001.

[P63] Measuring Distributed Durations with Stable Errors. António Casimiro, Pedro Martins, Paulo Veríssimo, Luis Rodrigues. Proceedings of the 22nd IEEE Real-Time Systems Symposium, London, UK, December 2001.

[P62] Paulo Veríssimo, Nuno Ferreira Neves, and Miguel Correia. The middleware architecture of MAFTIA: A blueprint. In *Proceedings of ISW 2000, the IEEE Information Survivability Workshop*, Boston, USA, October 2000.

[P61] P. Veríssimo, A. Casimiro, L. M. Pinho, F. Vasques, L. Rodrigues, and E. Tovar. Distributed computer-controlled systems: the DEAR-COTS approach. In *Procs. of the 16th IFAC Workshop on Distributed Computer Control Systems*, Sydney, Australia, November 2000. Elsevier.

[P60] P. Veríssimo, A. Casimiro, and C. Fetzer. The timely computing base: Timely actions in the presence of uncertain timeliness. In *Proceedings of DSN 2000, the IEEE/IFIP Int'l Conf. on Dependable Systems and Networks*, pages 533–542, New York City, USA, June 2000. IEEE Computer Society Press.

[P59] A. Casimiro, P. Martins, and P. Veríssimo. How to build a timely computing base using real-time linux. In *Proceedings of the 2000 IEEE International Workshop on Factory Communication Systems*, pages 127–1343, Porto, Portugal, September 2000. IEEE Industrial Electronics Society.

[P58] Carlos Almeida and Paulo Veríssimo. Using light-weight groups to handle timing failures in *quasi-synchronous* systems. In *Procs. of the 19th IEEE Real-time Systems symposium*, Madrid, Spain, December 1998. IEEE.

[P57] J. Rufino, N. Pedrosa, J. Monteiro, P. Veríssimo, and G. Arroz. Hardware support for CAN fault-tolerant communication. In *Proceedings of the 5th IEEE International Conference on Electronics, Circuits and Systems*, pages 263–266, Lisboa, Portugal, September 1998. IEEE.

[P56+] J. Rufino, P. Veríssimo, and G. Arroz. Defining a CAN-based infrastructure for fault-tolerant real-time distributed computing. In *Proceedings of the 19th Real-Time Systems Symposium*, Work In Progress, pages 27–30, Madrid, Spain, December 1998. IEEE. (published as Technical Report UNL-CSE-98-002, from University of Nebraska-Lincoln, Department of Computer Science and Engineering).

[P55] J. Rufino, P. Veríssimo, G. Arroz, C. Almeida, and L. Rodrigues. Fault-tolerant broadcasts in CAN. In *Digest of Papers, The 28th Int'l Symp. on Fault-Tolerant Computing Systems*, Munich, Germany, June 1998. IEEE.

[P54*] A. Mostefaoui, M. Raynal, and P. Veríssimo. Logically instantaneous communication on top of distributed memory parallel machines. In Victor Malyskin, editor, *Proc. of the 5th International Conference on Parallel Computing Technologies (PaCT'99)*, Lecture Notes in Computer Science LNCS 1662, pages 258–270, St. Petersburg, Russia, September 1999. Springer-Verlag.

[P53] J. Rufino, P. Veríssimo, and G. Arroz. Embedded platforms for distributed real-time computing: Challenges and results. In *Proceedings of the 2nd International Symposium on Object-oriented Real-time distributed Computing*, pages 147–152, Saint Malo, France, May 1999. IEEE.

[P52] J. Rufino, P. Veríssimo, and G. Arroz. A Columbus' egg idea for CAN media redundancy. In *Digest of Papers, The 29th International Symposium on Fault-Tolerant Computing Systems*, pages 286–293, Madison, Wisconsin, USA, June 1999. IEEE.

[P51] Paulo Veríssimo. On the role of time in distributed systems. In *Proceedings of the 5th Workshop on Future Trends of Distributed Computing Systems*, Tunis, Tunisia, October 1997.

[P50] P. Veríssimo, J. Rufino, and Li Ming. How Hard is Hard Real-Time Communication on Field-Buses? In *Digest of Papers, The 27th International Symposium on Fault-Tolerant Computing*, July 1997, Seattle - USA.

[P49] P. Veríssimo, S. Melro, A. Casimiro, and L. Silva. Distributed industrial information systems: Design and experience. In *Proceedings of BASYS'96, the 2nd International Conference on Information Technology for Balanced Automation SYStems in Manufacturing*. IEEE/IFIP, 1996.

[P48] Carlos Almeida and Paulo Veríssimo. Timing failure detection and real-time group communication in *quasi-synchronous* systems. In *Proceedings of the 8th Euromicro Workshop on Real-Time Systems*, L' Aquila, Italy, June 1996. (also available as INESC technical report RT/20-95).

[P47] L. Rodrigues, K. Guo, A. Sargento, R. van Renesse, B. Glade, P. Veríssimo, and K. Birman. A transparent light-weight group service. In *Proceedings of the 15th IEEE Symposium on Reliable Distributed Systems*, pages 130–139, Niagara-on-the-Lake, Canada, October 1996.

[P46] L. Rodrigues, H. Fonseca, and P. Veríssimo. Totally ordered multicast in large-scale systems. In *Proceedings of the 16th International Conference on Distributed Computing Systems*, pages 503–510, Hong Kong, May 1996. IEEE.

[P45] Videira, I., Veríssimo, P., and Sarmento, H. Efficient communication in a design environment. In *Proceedings of the 33rd Annual Design Automation Conference* (Las Vegas, Nevada, United States, June, 1996). DAC '96. ACM, New York, NY, 169-174. DOI=<http://doi.acm.org/10.1145/240518.240550>.

1981-1995

[P44] J. Rufino and P. Veríssimo. A Study on the Inaccessibility Characteristics of the Controller Area Network. In *Proceedings of the 2nd International CAN Conference*, London, England, October 1995. CiA.

[P43] Carlos Almeida and Paulo Veríssimo. An adaptive real-time group communication protocol. In *Proceedings of the First IEEE Workshop on Factory Communication Systems*, Leysin, Switzerland, October 1995.

[P42] François J.N. Cosquer, Luis Rodrigues, and Paulo Veríssimo. Using Tailored Failure Suspectors to Support Distributed Cooperative Applications. In *Proceedings of the 7th International Conference on Parallel and Distributed Computing and Systems*, pages 352–356. IASTED, October 1995.

[P41] François Cosquer and Paulo Veríssimo. The impact of group communication paradigms on groupware support. In *Proceedings of the 5th IEEE Workshop on Future Trends of Distributed Computing Systems*, pages 207–214, Cheju Island, Korea, August 1995.

[P40] L. Rodrigues, H. Fonseca, and P. Veríssimo. Reliable computing over mobile networks. In *Proceedings of the 5th Workshop on Future Trends of Distributed Computing Systems*, pages 488–494, Cheju Island, Korea, August 1995.

[P39] L. Rodrigues, A. Casimiro, and P. Veríssimo. Priority-based totally ordered multicast. In *Proceedings of the 3rd IFAC/IFIP workshop on Algorithms and Architectures for Real-Time Control (AARTC'95)*, Ostend-Belgium, May 1995. IFAC.

[P38] L. Rodrigues and P. Veríssimo. Causal separators for large-scale multicast communication. In *Proceedings of the 15th International Conference on Distributed Computing Systems*, pages 83–91, Vancouver, British Columbia, Canada, May 1995. IEEE. Also as INESC AR/05-95.

[P37] L. Rodrigues and P. Veríssimo. How to avoid the cost of causal communication in large-scale system. In *Proceedings of the 6th ACM-SIGOPS Europe Workshop*, Dagstuhl, Germany, September 1994.

[P36] L. Rodrigues, Ellen Siegel, and P. Veríssimo. A Replication-Transparent Remote Invocation Protocol. In *Proceedings of the 13th Symposium on Reliable Distributed Systems*, Dana Point, California, October 1994.

[P35] P. Veríssimo and W. Vogels. The Changing Face of Technology in Distributed Systems. In *Proceedings of the 4th Workshop on Future Trends of Distributed Computing Systems*, Lisboa, Portugal, September 1993. Also as INESC AR/15-94.

[P34] L. Rodrigues and P. Veríssimo. Replicated object management using group technology. In *Proceedings of the 4th Workshop on Future Trends of Distributed Computing Systems*, Lisboa, Portugal, September 1993. Also as INESC AR/28-93.

[P33] L. Rodrigues, P. Veríssimo, and A. Casimiro. Using atomic broadcast to implement a *a posteriori* agreement for clock synchronization. In *Proceedings of the 12th Symposium on Reliable Distributed Systems*, Princeton, New Jersey, October 1993. Also as INESC AR/29-93.

[P32] L. Rodrigues, P. Veríssimo, e J. Rufino. A low-level processor group membership protocol for lans. In *Proceedings of the 13th International Conference on Distributed Computing Systems*, Pittsburgh, Pennsylvania, USA, May 1993.

[P31] Werner Vogels, Luis Rodrigues, e P. Veríssimo. Fast group communication for standard workstations. In *Proceedings of the OpenForum'92 Technical Conference*, EurOpen, UniForum, Utrecht, the Netherlands, November 1992. INESC AR/28-92.

[P30] P. Veríssimo e Luis Rodrigues. Group orientation: a paradigm for modern distributed systems. In *Proceedings of the 5th ACM SIGOPS European workshop*, ACM, Mont Saint-Michel, France, September 1992. INESC AR/64-92.

[P29] Werner Vogels, P. Veríssimo, e Luis Rodrigues. Requirements for high performance group support in distributed systems. In *Proceedings of the 5th ACM SIGOPS European Workshop*, ACM, Mont Saint-Michel, France, September 1992. also INESC AR/29-92.

[P28+] J. Rufino, P. Veríssimo. Minimizing token-bus inaccessibility through network planning and parameterizing. In *EFOC/LAN92 Conference*, IGI, Paris, France, June 1992. INESC AR/17-92.

[P27] J. Rufino, P. Veríssimo. A study on the inaccessibility characteristics of ISO 8802/4 Token-Bus LANs. In *IEEE INFOCOM'92 Conference on Computer Communications*, IEEE, Florence, Italy, May 1992. INESC AR/16-92.

[P26] L. Rodrigues, P. Veríssimo. xamp: a Multi-primitive Group Communications Service. In *11th Symposium on Reliable Distributed Systems*, Houston, Texas, October 1992. INESC AR/66-92.

[P25*] P. Veríssimo, L. Rodrigues. Group orientation: a paradigm for distributed systems of the nineties. In *3rd Workshop on Future Trends of Distributed Computing Systems*, Taipei, Taiwan, April 1992. INESC AR/67-92.

[P24] P. Veríssimo, L. Rodrigues. A *a posteriori* Agreement for Fault-tolerant Clock Synchronization on Broadcast Networks. In *Digest of Papers, The 22nd International Symposium on Fault-Tolerant Computing*, July 1992, Boston - USA. INESC AR/65-92.

[P23+] Werner Vogels, P. Veríssimo. Supporting process groups in internetworks with lightweight reliable multicast protocols. In *ERCIM Workshop on Distributed Systems*, Lisboa, Portugal, November 1991. INESC AR/51-91.

- [P22+] P. Veríssimo, Luis Rodrigues. Xamp: A Versatile Group Communications Service. In *ERCIM Workshop on Distributed Systems*, Lisboa, Portugal, November 1991. INESC AR/-91.
- [P21] P. Veríssimo, D. Seaton, P. Bond, e P. Barrett. The extra performance architecture of delta-4 (xpa). In *1st International Workshop on Responsive Systems*, INRIA/ONR, Golf-Juan, France, October 1991. INESC AR/55-91.
- [P20] P. Veríssimo, J. Rufino, L. Rodrigues. Enforcing real-time behaviour of LAN-based protocols. In *10th IFAC Workshop on Distributed Computer Control Systems*, IFAC, Semmering, Austria, September 1991. INESC AR/54-91.
- [P19] Veríssimo, P. Design of fault tolerant distributed systems: the fail-controlled approach. In *Proceedings of the 4th Workshop on ACM SIGOPS European Workshop* (Bologna, Italy, September, 1990). ACM, New York, NY, 1-4. DOI=<http://doi.acm.org/10.1145/504136.504172>.
- [P18*] M. Baptista, L. Rodrigues, P. Veríssimo, S. Graf, J.L. Richier, C. Rodriguez, e J. Voiron. Formal specification and verification of a network independent atomic multicast protocol. In *Third International Conference on Formal Description Techniques (FORTE 90)*, IFIP, Madrid-Spain, November 1990.
- [P17+] Experience with the AMP Group Communication system: current status. In *Workshop on Experimental Distributed Systems*, IEEE, Huntsville, Alabama-USA, October 1990.
- [P16] Real-time data management with clock-less reliable broadcast protocols. In *Workshop on the Management of Replicated Data*, IEEE, Houston, Texas-USA, November 1990.
- [P15+*] P. Veríssimo, Luis Rodrigues. Reliable multicasting in high-speed lans. In *NATO Advanced Research Workshop on Architecture and Performance issues of high-capacity LANs and MANs*, INRIA, Sophia Antipolis, France, June 1990 (on invitation).
- [P14] P. Veríssimo, José A. Marques. Reliable broadcast for fault-tolerance on local computer networks. In *Ninth Symposium on Reliable Distributed Systems*, IEEE, Huntsville, Alabama-USA, October 1990.
- [P13] P. Barrett, P. Bond, A. Hilborne, L. Rodrigues, D. Seaton, N. Speirs, P. Veríssimo. The Delta-4 Extra performance architecture (XPA). In *Digest of Papers, The 20th International Symposium on Fault-Tolerant Computing*, IEEE, Newcastle-UK, June 1990.
- [P12+] The Safe Project Consortium *The Safety-critical SAFE Project. Esprit Reports*. December 1989 (contribuição).
- [P11+] Editor. *XPA: The Extra Performance Architecture of Delta-4. Design Guide*, Esprit Reports. Project Delta-4, also INESC Technical Rep. RT/54-89, November 1989.
- [P10] Arquiteturas de comunicação fiável em redes locais de computadores. In *Seminário Franco-Brasileiro em Sistemas Informáticos Distribuídos*, LCMI, Florianópolis- Brasil, September 1989.
- [P9] P. Veríssimo, L. Rodrigues, M. Baptista. AMP: a highly parallel atomic multicast protocol. In *SIGCOMM'89 Symposium*, ACM, Austin-USA, September 1989.
- [P8] "Redundant Media Mechanisms for Dependable Communication in Token-bus Lans", proc. 13th Local Computer Network Confer., Minneapolis-USA, October 1988.
- [P7] D.Powell, G.Bonn, D.Seaton, P. Veríssimo, F.Waeselynk. "The Delta-4 Approach to Dependability", Delta4 Proj., Procs. 18th Symp. Fault-Tolerant Computing, Tokyo-Japan, June 1988.

[P6+] L.Rodrigues, J.Marques, P. Veríssimo. "Atomic Multicast Extensions for 802.4 Token-bus", proc. FOC/LAN 87 Conference, Anaheim-USA, October 1987.

[P5+] J.Alves Marques, P. Veríssimo. "Standards in Local Area Computer Networks", Proc. CERN Computing School, Troia - Portugal, September 1987.

[P4] F.Videira, L.Osório, S.Neves, J.Jesus, P.Veríssimo, "IKNET - A microcomputer network in a teaching environment", Proc. da MIMI' 87, Cairo - Egipto, MAR 87.

[P3*] "DELTA-4 Overall System Specification", Esprit Project DELTA-4, AGO 86 (contribuição).

[P2] A.Marques, A.Cunha, J.Cunha, P. Veríssimo, "SMD, a modular architecture for a distributed system", Proceedings of the SEIR-2, Santiago de Compostela, SET 82.

[P1*] Participação em "Design of Static Power Voltage Stabilisers for Rural Areas", Proceedings of the Fourth European Conference on Electrotechnics, pp., 1980, Stuttgart (autores: A.V.Anunciada e C.F.F.Castro).

National publications / Publicações Nacionais

[N23] O Ensino da Engenharia Informática: Que Futuro? Ingenium, Ordem dos Engenheiros. II série, nº29, Maio/Junho 2012.

[N22] Hugo Ortiz, Paulo Sousa, Paulo Veríssimo. Towards Intrusion-Tolerant Process Control Software. 4ª Conferência Nacional sobre Segurança Informática nas Organizações (SINO 2008), Coimbra, Portugal.

[N21] Concretização de um Sistema de Comunicação em Grupo Tolerante a Intrusões Tiago Jorge, José Pascoal, Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo In 7ª Conferência sobre Redes de Computadores. Leiria, Portugal, pages 111-122, October 2004.

[N20] Um Núcleo de Segurança Distribuído para Suporte a Protocolos Tolerantes a Intrusões Pan Jieke, Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo In 1ª Conferência Nacional sobre Segurança Informática nas Organizações. Covilhã, Portugal, November 2005

[N19] FTP Tolerante a Intrusões José Pascoal, Tiago Jorge, Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo In 1ª Conferência Nacional sobre Segurança Informática nas Organizações. Covilhã, Portugal, November 2005.

[N18] Diagnóstico de Vulnerabilidades através da Injeção de Ataques João Antunes, Nuno Ferreira Neves, Miguel Correia, Paulo Veríssimo, Rui Neves 1ª Conferência Nacional sobre Segurança Informática nas Organizações (SINO'2005), Covilhã, Portugal.

[N17] Ver:94c Paulo Veríssimo. Comunicação e computação em sistemas distribuídos, lição de síntese. DEEC, IST, Lisboa, Portugal, November, 1994. Também Technical Report RT/xx-94, INESC.

[N16] Paulo Veríssimo, *Arquitectura de Sistemas Computacionais*, Folhas da cadeira, IST, 1994.

[N15] J. Marques dos Santos, P. Veríssimo, "Documento de Reflexão para Elaboração de uma Estratégia na Área de Automatização e Gestão Industrial", GATIE, 1991.

[N14] "Tolerância a Falhas na Automatização Industrial: Conceitos e Soluções", proc. do ENDIEL 87, Lisboa JAN 87.

[N13] P.Veríssimo, A. Paixão. "Uma arquitectura de comunicador para Rede Ethernet", proc. do 2o Simpósio da Electrónica das Telecomunicações, Forum Picoas, MAI 1986.

[N12] J.Fernandes, N. Especial, A.Cunha, P.Veríssimo. "Projecto de Electrónica : uma experiência pedagógica no DEEC do IST", proceedings do 1o seminário da APDC, Forum Picoas, 1985.

[N11] A.Cunha, J.Jesus, M.Relvas, P.Veríssimo. "IKIT - Uma experiência no domínio de sistemas modulares para ensino de microcomputadores", proceedings do ENDIEL 85, Porto.

[N10] A.Precatado, J.Jorge, M.Gomes, P.Veríssimo, J.Fernandes. "Utilização de um sistema de CAD no desenvolvimento de placas de microcomputador em circuito impresso", proceedings do ENDIEL 85, Porto.

[N9] J.A. Marques, A. Cunha, J. Cunha, P. Guerreiro, M. Marques, V. Vargas, P. Veríssimo. "O Projecto de Escritório Electrónico Nacional - Elena", Proceedings do 3o Congresso Português de Informática, Lisboa, OUT 84.

[N8] P.Veríssimo et al. "Um Circuito Integrado Controlador de Telefone Inteligente", Proceedings do 1o Simpósio de Electrónica das Telecomunicações, MAI 1984.

[N7] J.Marques, G. Arroz, J. Cunha, P.Veríssimo. "Redes Locais", proceedings do Simpósio de Redes Locais e Automação de Escritórios, IFIP W6.6 e API, SET 1983.

[N6] P.Veríssimo, R.Rocha e J.Jesus. "Circuito Integrado para Telefone Inteligente: Unidade de Controlo", proceedings do 1o Workshop Nacional de E. das Telecomunicações e Computadores, NOV 1983.

[N5] "Projecto SMD: O comunicador", "proceedings" do ENDIEL 83, Lisboa, JAN 1983.

[N4] P.Veríssimo, G.Arroz. "IBUS" Um bus de microcomputadores", "proceedings" do ENDIEL 83, Lisboa, JAN 1983 e Rel. Técn. INESC RT/38.

[N3] A.Marques,A.Cunha,J.Cunha,P.Veríssimo. "Arquitecturas Modulares. SMD: Projecto e implementação de um sistema distribuido", "proceedings" das Jornadas Técnicas da Standard Eléctrica, com.nr.29,1982.

[N2] A.Marques,A.Cunha,J.Cunha,P.Veríssimo."Um sistema distribuido com uma arquitectura modular", "proceedings" do Congresso Português de Informática, Lisboa, 1982

[N1] A.Marques,A.Cunha,J.Cunha,P.Veríssimo."Simulação funcional dos protocolos de um sistema de comunicação distribuido", "proceedings" do Congresso Português de Informática, Lisboa, 1982

Theses, technical reports and other publications / Teses, Relatórios Técnicos e outras publicações

1996----

[R128] Cheap Intrusion-Tolerant Protection for CRUTIAL Things. Alysson Bessani, Paulo Sousa, Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo. DI-FCUL TR-2009-14.

[R127] Francisco M Couto, Ivan Andrade, Pedro Gonçalves, Paulo Veríssimo. Benchmarking some Portuguese S&T system research units. DI FCUL Techn. Report 2010-07, Nov. 2010. <http://hdl.handle.net/10455/6682>.

[R126] Alysson Bessani, Paulo Sousa, Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo. Technical Report DI/FCUL TR-07-8. Department of Computer Science, University of Lisboa. April 2007.

[R125] On the Resilience of Intrusion-Tolerant Distributed Systems. Paulo Sousa and Nuno Ferreira Neves and Antónia Lopes and Paulo Veríssimo. Technical Report DI/FCUL TR-06-14. Department of Computer Science, University of Lisboa. September 2006.

[R124] Improving Byzantine Protocols with Secure Computational Components. Miguel Correia and Alysson Neves Bessani and Nuno Ferreira Neves and L. C. Lung and Paulo Veríssimo. Technical Report DI/FCUL TR-05-20. Department of Computer Science, University of Lisbon. December 2005.

[R123] Resilient State Machine Replication. Paulo Sousa and Nuno Ferreira Neves and Paulo Veríssimo. Technical Report DI/FCUL TR-05-17. Department of Computer Science, University of Lisbon. September 2005.

[R122] From Consensus to Atomic Broadcast: Time-Free Byzantine-Resistant Protocols without Signatures. Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo. Technical Report DI/FCUL TR-05-14. Department of Computer Science, University of Lisbon. October 2005.

[R121] Proactive Resilience through Architectural Hybridization (extended version). Paulo Sousa, Nuno Ferreira Neves, Paulo Veríssimo. Technical Report DI/FCUL TR-05-8. Department of Computer Science, University of Lisboa. May 2005.

[R120] How dependable are distributed fault/intrusion-tolerant systems? Paulo Sousa and Nuno Ferreira Neves and Paulo Veríssimo. Technical Report DI/FCUL TR-05-3. Department of Computer Science, University of Lisbon. February 2005.

[R119] Intrusion-Tolerant Middleware: the MAFTIA approach. Paulo Veríssimo and Nuno Ferreira Neves and C. Cachin and J. A. Poritz and David Powell and Y. Deswarte and Robert J. Stroud and I. S. Welch. Technical Report DI/FCUL TR-04-14. Department of Computer Science, University of Lisbon. November 2004.

[R118] How to Tolerate Half Less One Byzantine Nodes in Practical Distributed Systems. Miguel Correia, Nuno Ferreira Neves, Paulo Veríssimo. Technical Report DI/FCUL TR-04-6. Department of Computer Science, University of Lisbon. July 2004.

[R117] Low Complexity Byzantine-Resilient Consensus. Miguel Correia, Nuno Ferreira Neves, Lau Cheuk Lung, Paulo Veríssimo. Technical Report DI/FCUL TR-03-25, Department of Computer Science, University of Lisbon. August 2003.

[R116] Concretização de um cenário de carros cooperantes num ambiente móvel sem fios. Paulo Sousa and Pedro Martins and António Casimiro and Paulo Veríssimo. Technical Report DI/FCUL TR-03-23, Department of Computer Science, University of Lisbon. July 2003.

[R115] Analysis and Design of Application Scenarios. G. Blair, K. Cheverst, H. Duran-Limon, A. Friday, G. Samartzidis, T. Sivaharan, Paulo Sousa, Paulo Veríssimo, M. Wu. Technical Report DI/FCUL TR-03-21, Department of Computer Science, University of Lisbon. July 2003.

[R114] Proof-of-concept prototypes. V. Cahill, António Casimiro, J. Kaiser, Pedro Martins, V. Reynolds, Paulo Sousa, Paulo Veríssimo, M. Wu. Technical Report DI/FCUL TR-03-20, Department of Computer Science, University of Lisbon. July 2003.

[R113] The CORTEX Programming Model. G. Biegel, G. Blair, C. Brudna, V. Cahill, António Casimiro, S. Clarke, H. Duran-Limon, A. Fitzpatrick, A. Friday, B. Hughes, J. Kaiser, R. Meier, V. Reynolds, Paulo Veríssimo, M. Wu. Technical Report DI/FCUL TR-03-19, Department of Computer Science, University of Lisbon. July 2003.

[R112] Preliminary Specification of Basic Services and Protocols. G. Blair, C. Brudna, V. Cahill, António Casimiro, R. Cunningham, H. Duran-Limon, J. Kaiser, Pedro Martins, Paulo Veríssimo. Technical Report DI/FCUL TR-03-18, Department of Computer Science, University of Lisbon. July 2003.

[R111] Preliminary definition of CORTEX system architecture. C. Brudna, V. Cahill, António Casimiro, R. Cunningham, J. Kaiser, R. Meier, Paulo Veríssimo. Technical Report DI/FCUL TR-03-17, Department of Computer Science, University of Lisbon. July 2003.

[R110] Preliminary definition of CORTEX interaction model. G. Biegel, C. Brudna, António Casimiro, J. Kaiser, C. Liu, C. Mitidieri, Paulo Veríssimo. Technical Report DI/FCUL TR-03-16, Department of Computer Science, University of Lisbon. July 2003.

[R109] Preliminary definition of CORTEX programming model. P. Barron, G. Biegel, V. Cahill, António Casimiro, S. Clarke, R. Cunningham, A. Fitzpatrick, G. Gaertner, B. Hughes, J. Kaiser, R. Meier, Paulo Veríssimo. Technical Report DI/FCUL TR-03-15, Department of Computer Science, University of Lisbon. July 2003.

[R108] Definition of Application Scenarios. G. Biegel, G. Blair, V. Cahill, António Casimiro, K. Cheverst, R. Cunningham, A. Fitzpatrick, A. Friday, G. Gaertner, B. Hughes, J. Kaiser, R. Meier, N. Riegers, Paulo Veríssimo. Technical Report DI/FCUL TR-03-14, Department of Computer Science, University of Lisbon. July 2003.

[R107] Intrusion-Tolerant Architectures: Concepts and Design. Paulo Veríssimo, Nuno Ferreira Neves, Miguel Correia. Technical Report DI/FCUL TR-03-5, Department of Computer Science, University of Lisbon. April 2003.

[R106] Conceptual Model and Architecture of MAFTIA. A. Adelsbach, C. Cachin, Sadie Creese, Y. Deswarte, K. Kursawe, J.-C. Laprie, D. Powell, B. Randell, James Riordan, Peter Ryan, William Simmonds, R. J. Stroud, Paulo Veríssimo, M. Waidner, Andreas Wespi. Technical Report DI/FCUL TR-03-01, Department of Computer Science, University of Lisbon. Feb 2003.

[R105] Lessons Learned with NavTech: a Framework for Reliable Large-Scale Applications. Paulo Veríssimo. Technical Report DI/FCUL TR-02-17, Department of Computer Science, University of Lisbon. December 2002.

[R104] Complete Specification of APIs and Protocols for the MAFTIA Middleware. J. Armstrong, C. Cachin, Miguel Correia, A. Costa, Hugo Miranda, Nuno Ferreira Neves, Nuno Miguel Neves, J. A. Poritz, B. Randell, Lau Cheuk Lung, Luis Rodrigues, R. J. Stroud, Paulo Veríssimo, M. Waidner, I. S. Welch. Technical Report DI/FCUL TR-02-11, Department of Computer Science, University of Lisbon. July 2002.

[R103] Intrusion Tolerance: Concepts and Design Principles. A Tutorial. Paulo Veríssimo. Technical Report DI/FCUL TR-02-6, Department of Computer Science, University of Lisbon. July 2002.

[R102] CORTEX: Towards Supporting Autonomous and Cooperating Sentient Objects. Paulo Veríssimo, V. Cahill, António Casimiro, K. Cheverst, A. Friday, J. Kaiser. Technical Report DI/FCUL TR-02-1, Department of Computer Science, University of Lisbon. February 2002.

[R101] The design of a COTS real-time distributed security kernel (extended version). Miguel Correia, Paulo Veríssimo, Nuno Ferreira Neves. Technical report DI/FCUL TR-01-12, Department of Computer Science, University of Lisbon, December 2001.

[R100] MAFTIA Conceptual Model and Architecture A. Adelsbach, C. Cachin, Sadie Creese, Y. Deswarte, K. Kursawe, J.-C. Laprie, B. Pfitzmann, D. Powell, B. Randell, James Riordan, R. J. Stroud, Paulo Veríssimo, M. Waidner, Andreas Wespi Technical Report DI/FCUL TR-01-10, Department of Computer Science, University of Lisbon. Nov 2001

[R99] First Specification of APIs and Protocols for the MAFTIA Middleware. Nuno Ferreira Neves, Paulo Veríssimo. Technical Report DI/FCUL TR-01-6. Department of Computer Science, University of Lisbon. September 2001.

[R98] Using the Timely Computing Base for Dependable QoS Adaptation. António Casimiro and Paulo Veríssimo. Technical Report DI/FCUL TR-01-3. Department of Computer Science, University of Lisbon. July 2001.

[R97] Service and Protocol Architecture for the MAFTIA Middleware. Paulo Veríssimo, Nuno Ferreira Neves. Technical Report DI/FCUL TR-01-1. Department of Computer Science, University of Lisbon. January 2001.

[R96] The middleware architecture of MAFTIA: A blueprint. Paulo Veríssimo, Nuno Ferreira Neves, Miguel Correia. Technical Report DI/FCUL TR 00-6, Department of Computer Science, University of Lisbon, September 2000.

[R95] C. Cachin, J. Camenisch, M. Dacier, Y. Deswarte, J. Dobson, D. Horne, K. Kursawe, J.-C. Laprie, J.-C. Lebraud, D. Long, T. McCutcheon, J. Muller, F. Petzold, B. Pfitzmann, D. Powell, B. Randell, M. Schunter, V. Shoup, P. Veríssimo, G. Trouessin, R. J. Stroud, M. Waidner, and I. S. Welch. Maftia: Reference model and use cases. Technical Report DI/FCUL TR 00-5, Department of Computer Science, University of Lisboa, August 2000. Project MAFTIA IST-1999-11583 deliverable D1.

[R94] Timing Failure Detection with a Timely Computing Base. António Casimiro and Paulo Veríssimo. Technical Report DI/FCUL TR 99-8, Department of Informatics, University of Lisboa, April 1999.

[R93] J. Rufino, P. Veríssimo, and G. Arroz. Fundamental issues in the design of a can-based fault-tolerant real-time communication infrastructure for dear-cots. In *Proceedings of the 1st DEAR-COTS Workshop*, Porto, Portugal, October 1999. DEAR-COTS Consortium. (Technical Report CSTC RT-99-02).

[R92] Paulo Veríssimo and António Casimiro. The timely computing base. Technical Report DI/FCUL TR 99-2, Department of Informatics, University of Lisboa, April 1999. Short version appeared in the Digest of Fast Abstracts, The 29th IEEE Intl. Symposium on Fault-Tolerant Computing, Madison, USA, June 1999.

[R91] C. Almeida, J. Rufino, and P. Veríssimo. DDRAFT: Supporting dynamic distributed real-time applications with fault-tolerance. Technical Report CSTC RT-98-02, Centro de Sistemas Telemáticos e Computacionais do Instituto Superior Técnico, Lisboa, Portugal, February 1998.

[R90] J. Rufino, P. Veríssimo, G. Arroz, C. Almeida, and L. Rodrigues. Design of fault-tolerant broadcast protocols for CAN. Technical Report CSTC RT-97-06, Centro de Sistemas Telemáticos e Computacionais do Instituto Superior Técnico, Lisboa, Portugal, December 1997.

[R89] J. Rufino and P. Veríssimo. Hard real-time operation of CAN. Technical Report CSTC RT-97-02, Centro de Sistemas Telemáticos e Computacionais do Instituto Superior Técnico, Lisboa, Portugal, January 1997.

1981-1995

[R1*] - "Estabilizador de tensão para Redes Rurais", "proceedings" do ENDIEL 81, Porto, JAN 1981 (c/ A. Anunciada).

[R2] - "IBUS - bus para sistemas de microcomputadores", INESC, Relatório Técnico RT/37, JAN 82 (c/ G.Arroz).

[R3*] - "Análise do Sistema Operativo Multi-tarefa de tempo real iRMX86", INESC, Relatório Interno, Mestrado: Sistemas Informáticos, DEZ 1982.

[R4*] - "LUCIFER: Tradutor de linguagens descritivas de circuitos VLSI - LUCIE para CIF", INESC, Relatório Interno, Mestrado: Sistemas Informáticos, (c/ A.Leal).

[R5*] - "Ante-projecto de uma Ligação privada por cabo telefónico INESC-CAPS-CEAUTL: nível físico", INESC, Relatório Interno.

[R6*] - "Amplificador Logaritmico de Dinâmica elevada", IST, disciplina de Projecto de Electrónica, 1979 (c/J.Matias).

[R7*] - "Funções Possiveis num Telefone com teclado, utilizando o ICHIP", INESC, Relatório Interno, Mestrado: VLSI, MAI 1983 (c/ R.Rocha e J.Jesus).

[R8] - "Projecto e Implementação de um Comunicador para Rede Local do tipo CSMA/CD", **TESE DE MESTRADO**, IST/INESC TE/8, JAN 85.

[R9] - "Utilização de Caixas de correio Hardware na Comunicação entre Processadores no IBUS", INESC Rel. Técn. RT/62, Jan 1985.

[R10] - "Lógica de Arbitragem do IBUS", INESC Rel. Técn. RT/63, Jan 1985.

[R11] - "Circuito Tipico de Interface com o IBUS, para processadores do tipo 80/85", INESC Rel. Técn. RT/71, Jan 1985.

[R12] - "Expansão de E/S XIMP - Manual", Rel. Técn. INESC RT/120, August 1986.

[R13] - "Expansão de E/S XTLX - Manual", Rel. Técn. INESC RT/116, August 1986.

[R14] - "Token-Passing Bus Medium Access Control with Atomic Multicast", Relatório Técnico INESC RT/44, SET 86 (c/ J.Oliveira e J.A. Marques).

[R15*] - "Token-Passing Bus Access Method: Atomic Multicast Extensions", Relatório Técnico INESC RT/49, OCT86 (c/ J.Oliveira e J.A. Marques).

[R16] - "Report on Token-bus Physical Layer for Delta4 Architecture", Relatório Técnico INESC RT/46, DEC 86.

[R17] - "Overview of Token-bus and Token-ring Medium Access: Properties, Services and Protocols", Esprit Project DELTA-4, INESC Tech. Rep. RT/47, JAN 87 (c/ J.A. Marques e L. Rodrigues).

[R18] - "Network Attachment Controller Design Specification: Token-bus Communications Network Interface", Esprit Project DELTA-4, INESC Tech. Rep. RT/45, JAN 87 (c/ J.Rufino e J.A. Marques).

- [R19] - "Validation of Atomic Multicast Token-bus MAC Specification", Esprit Project DELTA-4, INESC Tech. Rep. RT/48, FEB 87 (c/ L.Rodrigues, e J.A. Marques).
- [R20] - "Sensores e Actuadores Industriais", Rel Técn. INESC RT/87, April 1987.
- [R21] - "To Commit or Not to Commit...", Delta4 Proj., INESC Tech. Report RT/88, May 1987.
- [R22] - "Dual-Media as Support for Dependable Communication in 8802/4 Token-bus", Delta4 Proj., INESC Tech. Report RT/115, December 1987.
- [R23] - "MCS Functional Specifications: Token-Passing Bus Access Method and Physical Layer", Esprit Project DELTA-4 Specification JAN 87 (c/ J.Oliveira e J.A. Marques). Rev. de RT/49.
- [R24] - "On Use and Abuse of Fault Classifications in Communication Systems", INESC Tech. Report RT/95, December 1987.
- [R25] - "Alien - O Passageiro Clandestino de um Sistema Distribuido", INESC Relat. Tecn. RT/114, December 1987.
- [R26*] - "Sistemas Distribuidos e Arquitecturas de Computadores", Jornadas Cientificas e Tecnológicas da JNICT, Lisboa - Portugal, 1987. (c/ José A. Marques e A. Cunha)
- [R27] - " High-Speed Fibre-Optic Lan Support for Delta-4", Delta4 Proj., INESC Tech. Report RT/108, April 1988.
- [R28] - "NAC Implementation Specification: Token-bus Controller", Delta-4 Proj., INESC Tech. Report RT/110, April 1988 (c/ J. Rufino, J.A.Marques).
- [R29] - "NAC Implementation Specification: Token-bus Driver", Delta-4 Proj., INESC Tech. Report RT/118, April 1988 (c/ J. Rufino, L. Rodrigues).
- [R30] - "MCS Implementation Specification: Atomic Multicast Protocol V1", Delta-4 Proj., INESC Tech. Report RT/119, April 1988 (c/ L. Rodrigues, M. Baptista).
- [R31] - "MCS User Specification: Token-bus MAC and Atomic Multicast Protocol", Delta-4 Proj., INESC Tech. Report RT/117, April 1988 (c/ L. Rodrigues, J. Rufino).
- [R32] - "AMp: A Highly Parallel Atomic Multicasting Primitive", Delta-4 Proj., INESC Tech. Report RT/139, September 1988. (c/ L.Rodrigues, M.Baptista).
- [R33*] - "O Microcontrolador SMD51", Rel. Técn. INESC, September 1988.
- [R34] c/ J. Oliveira, J. Marques, e Luis Rodrigues. *MCS Functional Specifications: Token-Passing Bus Access Method (Atomic Multicast Extensions) and Physical Layer (V2)*. Technical Report RT/150, Delta4 Project, INESC, Lisboa, Portugal, October 1988.
- [R35] *High-Speed Fibre-optic Lan Support for Delta-4 - Prelim. Spec. for FDDI*. Technical Report RT/149, Delta-4 Project, INESC, Lisboa, Portugal, December 1988.
- [R36] c/ L. Rodrigues e M. Baptista. *Reliable and Efficient Communication in Distributed Systems*. Technical Report RT/3-89, INESC, Lisboa, Portugal, January 1989.
- [R37] c/ Luis Rodrigues. *A naive model of real-time distributed processing – the communication viewpoint*. Technical Report RT/52-89, Delta-4 Project, INESC, Lisboa, Portugal, April 1989.
- [R38] c/ Luis Rodrigues. *Precedence, urgency and order in distributed real-time systems*. Technical Report RT/53-89, Delta-4 Project, INESC, Lisboa, Portugal, April 1989.
- [R39] c/ Luis Rodrigues. *Clock Synchronisation on XPA*. Technical Report RT/51-89, Delta-4 Project, INESC, Lisboa, Portugal, April 1989.

- [R40*] c/ Mario Baptista, Luis Rodrigues. *The AMp State Machine Description - Issue 1 - IG1*. Technical Report RT/44-89, Delta-4 Project, INESC, Lisboa, Portugal, December 1989.
- [R41] *Comunicação em Grupo Fiável, em Sistemas Distribuídos sobre Rede Local*. **PHD THESIS**, Universidade Técnica - IST, Lisboa - Portugal, December 1989.
- [R42] *A Fault Model for Reliable Fail-Controlled Communication Systems*. Technical Report RT/47-89, INESC, Lisboa, Portugal, April 1989.
- [R43] c/ J. A. Marques. *Reliable broadcast on Local Computer Networks*. Technical Report RT/49-89, INESC, Lisboa, Portugal, April 1989.
- [R44] *Confiança no Funcionamento: proposta para uma terminologia em Português*. Technical Report RT/48-89, INESC, Lisboa, Portugal, October 1989.
- [R45] c/ L. Rodrigues. *Order and Synchronism Properties of Reliable Broadcast Protocols*. Technical Report RT/66-89, INESC, Lisboa, Portugal, December 1989.
- [R46*] c/ José A. Marques. *Reliable Broadcast for Fault-Tolerance on Local Computer Networks*. Technical Report RT/67-89, INESC, Lisboa, Portugal, December 1989.
- [R47] c/ Mário Baptista, Luis Rodrigues. *AtomicMaze: Implementing a distributed computer game with the AMp*. Technical Report RT/45-89, INESC, Lisboa, Portugal.
- [R48] *Design of Fault Tolerant Distributed Systems: The fail-controlled approach*. Technical Report RT/17-90, INESC, Lisboa, Portugal, April 1990.
- [R49*] M. Baptista, L. Rodrigues, P. Veríssimo, S. Graf, J.L. Richier, C. Rodriguez e J. Voiron. *Formal Specification and Verification of a Network Independent Atomic Multicast Protocol*. Technical Report RT/30-90, INESC, Lisboa, Portugal, June 1990.
- [R50*] P. Veríssimo, Luis Rodrigues. *Reliable Multicasting in High-speed LANS*. Technical Report RT/44-90, INESC, Lisboa, Portugal, May 1990.
- [R51*] *Real-time Data Management with Clock-less Reliable Broadcast Protocols*. Technical Report RT/19-90, INESC, Lisboa, Portugal, May 1990.
- [R52*] *Experience with the AMp Group Communication system: current status*. Technical Report RT/18-90, INESC, Lisboa, Portugal, March 1990.
- [R53*] L. Rodrigues, P. Veríssimo, J. Rufino. *Abstract Network User Specification*. Technical Report RT/48-90, INESC, Lisboa, Portugal, April 1990.
- [R54] L. Rodrigues, P. Veríssimo. *xAMp User Specification*. Technical Report RT/49-90, Delta-4 Proj., INESC, Lisboa, Portugal, April 1990.
- [R55] H. Fonseca, L. Rodrigues, J. Rufino, P. Veríssimo. *Local Support Environment: User Specification*. Technical Report RT/50-90, INESC, Lisboa, Portugal, August 1990.
- [R56*] M. Baptista, L. Rodrigues, P. Veríssimo, S. Graf, J.L. Richier, C. Rodriguez e J. Voiron. *The AMp State Machine Description - Issue 2 - IG2*. Technical Report RT/51-90, Delta-4 Project, INESC, Lisboa, Portugal, December 1990. Rev. de RT/44-89.
- [R57*] P. Veríssimo, L. Rodrigues, e J. Rufino. *Delta-4 Architecture Guide: Atomic Multicast protocol chapter*. Technical Report RT/47-90, INESC, Lisboa, Portugal, December 1990.
- [R58*] *Delta-4 Architecture Guide: Group Communications Support of Distributed Fault-Tolerance chapter*. Technical Report RT/46-90, INESC, Lisboa, Portugal, December 1990.
- [R59*] *Delta-4 Architecture Guide: Real-time Communications of Real-Time chapter*. Technical Report RT/45-90, INESC, Lisboa, Portugal, December 1990.

- [R60] P. Veríssimo e João Lemos. *Sistema Distribuído de Controlo*. Technical Report RT/52-90, INESC, Lisboa, Portugal, December 1990.
- [R61*] P. Bond, P. Veríssimo, e L. Rodrigues. *XPA Implementation Guide*. Technical Report I90.211/I1/P, DELTA-4 Proj., INESC RT/2-91, WP7, January 1991.
- [R62] Werner Vogels e P. Veríssimo. *Amaze on ISIS: Implementation of a distributed state machine using process groups*. Technical Report RT/67-92, INESC, May 1991.
- [R63] J. Rufino, L. Rodrigues, e P. Veríssimo. *Design Requirements of the Abstract Network User Interface*. Technical Report RT/71-91, INESC, Lisboa, Portugal, January 1991.
- [R64] P. Veríssimo, J. Rufino, H. Fonseca, e L. Rodrigues. *The Performance of the xAMP protocol on Token-Bus and FDDI NAC's*. Technical Report RT/109-91, INESC, Lisboa, Portugal, November 1991.
- [R65] J. Rufino e P. Veríssimo. *Design Specification of the FDDI Network Attachment Controller*. Technical Report RT/77-91, INESC, Lisboa, Portugal, November 1991.
- [R66] J. Rufino, L. Rodrigues, e P. Veríssimo. *Abstract Network User Specification*. Technical Report RT/72-91, INESC, Lisboa, Portugal, September 1991.
- [R67] J. Rufino e P. Veríssimo. *An Overview of the AMD chipset for FDDI*. Technical Report RT/76-91, INESC, Lisboa, Portugal, July 1991.
- [R68] J. Rufino e P. Veríssimo. *Optical Components for the FDDI Physical Medium Dependent sub-layer*. Technical Report RT/75-91, INESC, Lisboa, Portugal, July 1991.
- [R69*] L. Rodrigues, P. Veríssimo, R. Ribot, M. Chereque, J. Richier, e J. Voiron. *xAMP: The Delta-4 Group Communications Service*. INESC Technical Report RT/78-91, DELTA-4 Proj., WP4, May 1991.
- [R70] L. Rodrigues, P. Veríssimo, e A. Casimiro. *xAMP Time Service Implementation Specification*. Technical Report RT/66-91, Delta-4 Project, INESC, Lisboa, Portugal, October 1991.
- [R71] L. Rodrigues, P. Veríssimo, H. Fonseca, e M. Baptista. *Generic xAMP Specification*. Technical Report RT/70-91, Delta-4 Project, INESC, Lisboa, Portugal, October 1991.
- [R72*] L. Rodrigues e P. Veríssimo. *A posteriori Agreement for Clock Synchronization on Broadcast Networks*. Technical Report RT/62-92, INESC, March 1991 (Revised, March 1992).
- [R73*] L. Rodrigues e P. Veríssimo. *xAMP, A Protocol Suite for Group Communication*. Technical Report RT/43-92, INESC, Lisboa, Portugal, January 1992.
- [R74] José Rufino e P. Veríssimo. *A study on the inaccessibility characteristics of the ISO 8802/5 Token-Ring LAN*. Technical Report RT/24-92, INESC, Lisboa, Portugal, February 1992.
- [R75] José Rufino e P. Veríssimo. *A study on the inaccessibility characteristics of the ISO 9314 FDDI LAN*. Technical Report RT/25-92, INESC, Lisboa, Portugal, March 1992.
- [R76] José Rufino e P. Veríssimo. *An investigation on the inaccessibility characteristics of token-based standard LANs*. Technical Report RT/26-92, INESC, Lisboa, Portugal, April 1992.
- [R77] Sergio Melro e P. Veríssimo. *Real-Time and Dependability Comparison of Delta-4/XPA and MARS systems*. Technical Report RT/9-92, INESC, Lisboa, Portugal, January 1992.
- [R78] P. Veríssimo et al. *Dinas - user requirements on networks and services*. Technical report, Esprit Proj. Dinas-DQS 6779, February 1993.
- [R79] P. Veríssimo et al. *Dinas - internetworking architecture and service specification*. Technical report, Esprit Proj. Dinas-DQS 6779, June 1993.

[R80*] L. Rodrigues and P. Veríssimo. The ROMANCE approach to replicated object management. Technical Report INESC TR/57-93, IST - INESC, Lisboa, Portugal, 1993.

[R81] L. Rodrigues and P. Veríssimo. Message slotting: Ensuring replica determinism in preemptive real-time systems. Technical Report INESC RT/58-93, IST - INESC, Lisboa, Portugal, 1993.

[R82] P. Veríssimo, Werner Vogel, and Luis Rodrigues. A framework for structuring group support in Isdcs. Technical Report BROADCAST project, INESC, Lisboa, Portugal, September 1993.

[R83] P. Veríssimo. The Rôle of Clock-less Protocols in Real-time Systems. Technical Report RT/18-94, INESC, Lisboa, Portugal, July 1994.

[R84] L. Rodrigues and P. Veríssimo. Management of replicated data: A survey (draft version 3.0). Technical Report INESC RT/xx-94, IST - INESC, Lisboa, Portugal, 1994.

[R85] François Cosquer and Paulo Veríssimo. Survey of selected groupware applications and supporting platforms. Technical Report RT-21/94, INESC, September 1994. (also available as Broadcast Technical Report 2nd year deliverables, 1994).

[R86] François Cosquer and Paulo Veríssimo. Large scale distributed support for cooperative applications. Technical Report RT-xx/94, INESC, November 1994.

[R87] L. Rodrigues, H. Fonseca, and P. Veríssimo. A dynamic hybrid protocol for total order in large-scale systems. Technical report, INESC, Lisboa, Portugal, 1994.

[R88] José Rufino, Paulo Veríssimo, and Luis Rodrigues. Integration of Highly Efficient Traffic Addressing Mechanisms in LAN-based Architectures. Technical Report RT, INESC, Lisboa, Portugal, October 1995.

Keynote speeches, seminars and talks / Conferências, Seminários e Apresentações

2012-2013

Keynote Speech. Computing and Communications Resilience: the keystone of modern global applications, revised. 33rd IEEE Symp. on Reliable Distributed Systems (SRDS), Nara, Japan, October, 2014.

Keynote Speech. Are we keeping the security and dependability balance in the DevOps world? 1st Int'l Workshop on Dependability and Security of System Operation, DSSO Workshop @DSN, Atlanta-US, June 2014.

Distinguished Lecture. What happens when you let reality inspire your research? Distinguished Lecture Series of INESC-ID, Lisboa, Portugal, April, 2014.

Why do information and communication infrastructures fail so easily?

Keynote Speech. IDN – Curso de Cibersegurança e Gestão de Crises no Ciberespaço, Instituto de Defesa Nacional, Portugal, Março 2014.

Keynote Speech. SnT Partnership Day 2013, University of Luxembourg, Luxembourg, May 2013.

Keynote Speech. ConfTele'2013, 9th Conference on Telecommunications, I.T., Castelo Branco, Portugal, May 2013.

Security and Dependability Risks of Critical Information Infrastructures (or why Bang! is different from Crash), revised.

Distinguished Seminar, University of Luxembourg, Luxembourg, February 2013.

Keynote Speech. LADC'13 – 6th Latin-American Symposium on Dependable Computing. Rio de Janeiro, Brasil. April 2013.

Lei vs. Tecnologia: porque é que não chega dizer que é proibido, Conferência Privacidade, Inovação e Internet, APDSI, Culturgest, Lisboa, Portugal, Maio 2013.

JITER: Just-In-Time Overlay Routing, Invited Talk, University of Dresden, Dresden, Germany, April 2013.

Cibersegurança em Portugal: o papel das universidades, empresas e administração pública. Palestra Inaugural da Pós-Graduação em Direito e Cibersegurança, FDUL, Lisboa, Portugal, April 2013.

Security and Dependability of Cloud Computing: Where is my data?! 3rd Doctoral Conference on Computing, Electrical and Industrial Systems (DoCEIS'13), Caparica, Portugal, April 2013.

Recent Advances in Cloud Computing Dependability. 63rd Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance. Tavira, Portugal, January 2013.

Cyber: meet Physical! or, Safety and Security Challenges of an Internet of Gadgets. Universidad Carlos III de Madrid, Madrid, Spain, January 2013.

Computing and Communications Resilience: the keystone of modern global applications, IC Colloquium, EPFL, Lausanne, Switzerland, October 2012.

Proteção das Infraestruturas Críticas Nacionais: Um Imperativo Nacional. Simpósio Internacional Estratégia Nacional de Cibersegurança: Da Visão à Acção. Academia Militar, Amadora, Julho 2012.

O Ensino da Engenharia Informática: Que Futuro? Conferência “A Engenharia Informática – que futuro?”, Ordem dos Engenheiros. Maio 2012. Porto, Portugal.

Architectural resilience in cloud computing. SecureCloud 2012. May 2012. Frankfurt, Germany.

Beyond the glamour of Byzantine Fault Tolerance, OR why resisting intrusions means more than BFT.

HTDC 2012, 5th Winter School on Hot Topics in Distributed Computing, INRIA Grenoble. March 2012. La Plagne, France.

26th International Symposium on DIStributed Computing (DISC), Salvador, Brasil, October 2012.

Invited Talk, SnT University of Luxembourg, Luxembourg, February 2013.

SIEM (Security Information and event Management): como prevenir a morte da sentinela. Shadowsec Security Meeting. Março 2012. Lisboa, Portugal.

Porque é que as infraestruturas informáticas falham tão facilmente?

Conferência “O desafio da Cibersegurança”, OSCOT-PT. Fevereiro 2012. Lisboa, Portugal.

Ibid, Encontro Nacional de Estudantes de Informática, ENEI’12, Faculdade de Ciências da Universidade de Lisboa, Lisboa, Abril de 2012. Lisboa, Portugal.

Ibid, Semana Informática do Instituto Superior Técnico (SINFO), Fevereiro 2012. Lisboa, Portugal.

Palestra "Conhecer o DEEC", Instituto Superior Técnico, March 2013, Lisboa, Portugal.

2010-2011

Can security- and privacy-critical applications be housed in the clouds? TClouds says yes!

Schloss Dagstuhl Seminar *on Security and Privacy in Smart Energy Grids*. December 2011. Schloss Dagstuhl- Germany.

Ibid, 61st Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance. January 2012. Sainte-Luce – France.

The added value of Joint PhD programmes with third countries and a compulsory mobility component: University of Lisbon experience with the Dual PhD programmes in the CarnegieMellon|Portugal partnership. “Enhancing Quality Through Internationalisation” Seminar. University of Lisbon, October 2011. Lisboa, Portugal.

“Cloud Computing security”: por onde andam os meus dados? Cloud Computing Fórum 2011. Computerworld. Setembro 2011. Lisboa, Portugal.

Security and Dependability Risks of Critical Information Infrastructures (or why Bang! is different from Crash).

Keynote Speech. Safecomp 2011. September 2011. Naples, Italy.

Ibid, (extended version). Seminar at Federico II University PhD School on Homeland Security. September 2011. Naples, Italy.

Ibid, Keynote Speech. Encontro InovGrid. Dezembro 2011. Torres Vedras, Portugal.

Resisting Intrusions means more than Byzantine Fault Tolerance. Keynote Speech, 11th IFIP Int'l Conf. on Distributed Applications and Interoperable Systems, DAIS@DisCoTec, 6th International Federated Conferences on Distributed Computing Techniques. June 2011. Reykjavik, Iceland.

Technical and Social Developments of Cyber-attacks. International Seminar on Cyber Security: an action based approach. GNS- Gabinete Nacional de Segurança, Euro-Defense, AFCEA. May 2011. Lisboa, Portugal.

“Secure Cloud Computing”: como fazer o novo sonho da computação distribuída não terminar em pesadelo.

Keynote speech 15º Aniversário do LaSID 2010, U. Federal da bahia UFBA, Maio 2010. Salvador, Brasil.

Ibid, Executive Lunch Keynote. Tecnidata. Fevereiro 2011. Lisboa, Portugal.

Protecção da Infraestrutura de Informação Nacional: Algumas achegas para um pensamento estratégico. Colóquio "Segurança do Ciberespaço", Instituto de Defesa Nacional, Dezembro 2010. Lisboa, Portugal.

The Dynamics of f: Distributed Systems Models Revisited. Keynote Speech, Workshop on Theoretical Aspects of Dynamic Distributed Systems (TADDS) @ DISC 2010. September 2010. Boston, USA.

Intrusion Tolerance Going Mainstream : Which Applications Stand to Benefit?

Keynote Speech, Spanish Meeting on Cryptology and Computer Security (RECSI 2010). September 2010. Tarragona, Spain.

Proactive Resilience Revisited: Resisting Intrusions means more than Byzantine Fault Tolerance. Invited seminar. Microsoft Research Mountain View. June 2010. Mountain View, USA.

Riscos de Segurança das Infraestruturas de Informação Crítica, Faculdade de Ciências da U. do Porto. Junho 2010. Porto, Portugal.

Sociedade da Informação Segura: em que ponto estamos? Conversas na Aldeia Global, Câmara Municipal de Oeiras. Fevereiro 2010. Oeiras, Portugal.

Sistemas Críticos: Quando “segurança” não chega. Information Security 2010, IDC. Janeiro 2010. Lisboa, Portugal.

2008-2009

O Impacto do Cloud Computing (do Fornecedor ao Utilizador Final). Pequeno-Almoço Executivo «As novas estratégias para as infra-estruturas de desktop». UNISYS. Outubro 2009. Lisboa, Portugal.

Riscos de Segurança das Infraestruturas de Informação Crítica ou porque Bang! é diferente de Crash. Keynote Speech. 1º INForum, Simpósio de Informática, Setembro 2009, Lisboa, Portugal.

Strategic Cyber Defense for Critical Infrastructures: the Achilles heel of modern societies? Keynote Speech. 8th European Conference on Information Warfare and Security, ECIW 2009, July, Lisbon, Portugal.

Some Notes on Research Challenges for Objective 1.4 Trustworthy ICT Challenge 1 Future Internet. Keynote Speech. EC Trust and Security Unit Information Day. June 2009. Brussels, Belgium.

Some Notes on a Strategy for Information and Infrastructure Security and Dependability. Next Generation Networks for Trusted High-Quality Services, CMU|Portugal Conference, June 2009. Porto, Portugal.

Probabilistic Adaptive Time-Aware Consensus. Mônica Dixit, António Casimiro, Paulo Veríssimo. Eurosyst 2009, WIP session. March 2009. Nuremberg, Germany.

Security and Dependability of Critical Infrastructures, in Investing in Strategic Cyber Defense for Critical Infrastructures Seminar, Logica, February 2009, Lisbon - Portugal.

Segurança informática: como conseguir vantagem competitiva. Oracle Security Symposium. Outubro 2008. Lisboa, Portugal.

Resilience of Critical Infrastructures", Prof. Paulo Verissimo, University of Lisbon. ENISA-FORTH School on Network and Information Security. September 2008. Crete, Greece.

Future Control System Cyber Architectures. Cyber Security For Process Control Systems Summer School. U. Illinois, Washington State University, Dartmouth, and Cornell. June, 2008. Lake Geneva, US.

Protecção da Infraestrutura de Informação Nacional: Ameaças, Vulnerabilidades, Riscos. Sociedade de Geografia, Junho 2008. Lisboa, Portugal.

Information System Security under the Smart Grid paradigm. EDP Seminar. March 2008. Lisboa, Portugal.

Power Grid Security: past, present and future. Invited Speech at : Intelligent Power Delivery, A Logica and EDP Forum for InovGrid, EDP Auditorium, March 2008, Lisbon – Portugal.

Evolution of Security: from Ad-hoc Prevention to Automatic Protection. CMU|Portugal Security and Dependability Academy, December, 2009, Lisbon, Portugal.

Segurança Informática: como conseguir vantagem competitiva. *Keynote speech*, Security Symposium da Oracle, Lisboa, Outubro 2008.

Desafios na Protecção das Infraestruturas Críticas Nacionais, no ciclo de conferências “A Guerra de Informação – uma nova dimensão do conflito ? “, Sociedade de Geografia de Lisboa, Lisboa-Portugal, Junho 2008.

Power Grid Security: past, present and future. Paulo Verissimo. Invited Speech at : Intelligent Power Delivery, A Logica and EDP Forum for InovGrid, EDP Auditorium, 31st March 2008, Lisbon – Portugal.

2006-2007

Computers, meet the real world! or Challenges of Architecting Dependable and Secure CII. *Keynote speech*, 13th IEEE Pacific Rim International Symposium on Dependable Computing (PRDC'07). Melbourne-Australia, December 2007.

The tangled webs of Critical Information Infrastructures. *Keynote speech*, CRITIS'07, 2nd International Workshop on Critical Information Infrastructures Security. Benalmadena-Spain, October 2007.

Resilience Challenges in Service-Oriented Architectures. *Keynote speech*, 2nd ESFORS Workshop on Trust, Security and Dependability in Service Oriented Infrastructures. Maribor-Slovenia, July 2007.

Mirror, Mirror embedded on the wall! What future lies ahead of us all? - *Keynote speech*, Real-Time Workshop@ SBRC, Brazilian Computer Networks Symposium, Belém do Pará-Brasil, May 2007.

CRUTIAL: The Blueprint of a Reference Critical Information Infrastructure Architecture. 51st Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance. Gosier- France, January 2007.

Intrusion Tolerance: the Road to Automatic Security?

Univ. Illinois at Urbana-Champaign, Coordinated Science Laboratory, Invited Seminar, Champaign-USA, December 2006.

Ibid, *Keynote Speech*, 3ª Conferência Nacional sobre Segurança Informática nas Organizações (SINO'2007). Lisboa-Portugal, November 2007.

Embedded systems pave the road to the future Internet, em EU-US Summit on Cyber Trust, Dublin-Ireland, November 2006.

Identidade Digital, *Keynote Speech*, Fórum da Arrábida “Repensar a Sociedade da Informação e do Conhecimento: Segurança, Privacidade e Identidade Digital”, Convento da Arrábida-Portugal, October 2006.

Intrusion Tolerance: the Road to Automatic Security ?, Schloss Dagstuhl Seminar *From Security to Dependability*, Schloss Dagstuhl- Germany, September 2006.

Oh, the tangled webs we weave: From digital systems to complex systems-of-embedded-systems. *Keynote speech*, 18th Euromicro Conference on Real-Time Systems (ECRTS 06), Dresden, Germany, July 2006. Shorter version in "Progresses in fault-tolerant real-time computing" panel, SRDS 2004, Florianópolis, Brasil, October 2004.

Thou Shalt Not Trust non-Trustworthy Systems. *Keynote speech*, Workshop on Assurance in Distributed Systems and Networks @ ICDCS 2006, Lisboa, Portugal, July 2006.

Travelling through Wormholes: A new look at Distributed Systems Models. Resist WG-Algos/Arch Workshop, Lisboa, Portugal, July 2006.

Security challenges in systems-of-embedded-systems. Joint US-EU-Tekes Workshop on Long Term Challenges in High Confidence Composable Embedded Systems, Cyber Security for embedded control systems, Helsinki, Finland, June 2006.

FLP is back! or A forgotten dimension of time in distributed systems problems. Invited talk, Microsoft Research, Mountain View, USA, April 2006.

CRUTIAL, Critical UTility InfrastructurAL Resilience. Workshop on Security and Networking in Critical Real-Time and Embedded Systems @ 12th IEEE RTAS, San Jose, USA, April 2006.

On Resilience of modern Critical Infrastructures. Joint US-EU Workshop on ICT-Enabled Critical Infrastructures and Interdependencies: Control, Safety, Security and Dependability. Washington DC, USA, March 2006.

The Quest for Autonomy: Programming Dependably Adaptive R/T Applications in CORTEX. 49th Meeting and Workshop of IFIP Working Group 10.4. Tucson, USA, February, 2006.

2004-2005

On Detours and Shortcuts to solve problems in critical applications. At Workshop on Critical Applications Design, Univ. Illinois Urbana-Champaign, December 2005.

On Detours and Shortcuts to solve distributed systems problems (or Atomicity/Consensus made Affordable), no Dagstuhl Seminar on Atomicity in System Design and Execution, Schloss Dagstuhl, Germany, April 2005.

Embedded systems pave the road to the future Internet. NSF Grand Challenges on Distributed Systems, <http://pdos.csail.mit.edu/kaashoek/nsf/>, September 2005. A contribution to the definition of related research initiatives by the NSF.

A Insegurança dos Sistemas Informáticos Actuais. *Keynote speech*, Security World 2005, Lisboa-Portugal, 2005.

Protecção da Infra-estrutura de Informação Nacional, no SEMINÁRIO Novos desafios e ameaças na era da informação- a estratégia da informação nacional, Academia Militar, Lisboa-Portugal, 2005.

MAFTIA - Intrusion Tolerance for Internet-based Architectures, no TF-CSIRT seminar, Lisboa-Portugal, 2005.

Mirror, Mirror embedded on the wall! What future lies ahead of us all?

Keynote Speech, Int'l Workshop on Dependable Embedded Systems (@SRDS 2004), October 2004, Florianópolis, Brasil

Ibid, *Keynote speech*, Co-operating Objects Research Challenges: Network Embedded Systems based on Co-Operating Objects. A contribution to the definition of this research initiative by the European Commission. June 2005. http://www.cordis.lu/ist/embedded/workshop_230605.htm.

The Attacks that came from afar, Or the difficulty of seizing evidence in certain scenarios, *Keynote Speech*, International Seminar on Seizing Evidence in the Internet, AGIS, Lisboa-Portugal, 2004.

2002-2003

Paulo Veríssimo: Trustworthiness of Open Information Systems: How Should It Be Achieved? SRDS 2003, Panel. October 2003. Florence Italy.

Dependability, Security, two faces of a same coin?

Invited talk, Workshop on Principles of Dependable Systems @ DSN 2003, San Francisco, USA, June 2003.

Ibid, Invited talk, 31st Spring School in Theoretical Computer Science, Distributed Algorithms, Porquerolles, France, May 2003.

Ibid, European Research Workshop on Middleware and Architectures for Complex and Embedded Cooperative Systems, @ ISADS 2003, Pisa, Italy, April 2003.

Uncertainty and Predictability: can they be reconciled? : A Vision and a Concrete Model. IFIP WG10.4 Works. on Middleware for Adaptivity and Dependability, Sal, Cabo Verde, January, 2003.

Fundamental questions in the ET vs. TT debate? Please look elsewhere. Invited talk, Next-TTA Workshop on ET-TT Integration, Grenoble, France, October 2002.

2000-2001

[C57] - The Timely Computing Base. 35th Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance, Martinique-França, January 2000.

[C58] - Os Ataques que Vieram do Além. *Palestra* no Encontro de Gestão e Tecnologias da Informação da Universidade de Coimbra (FCT). April 2000.

[C59] - The Middleware Architecture of MAFTIA: A Blueprint EU/US Workshop on Information Assurance and Survivability, DERA, Malvern-UK, June 2000.

[C60] - The Middleware Architecture of MAFTIA. 36th Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance, Kerkhornson-EUA, June 2000.

[C61] - The Timely Computing Base: Timely Actions in the Presence of Uncertain Timeliness. Invited Seminar, Technical University Vienna, September 2000.

[C62] - The Middleware Architecture of MAFTIA: A Blueprint. *Invited talk*, Academic Journeys of IBM Research, Zurich-Suíça, September 2000.

[C63] - Global Computing: a Vision. *Invited talk*, Consultation Workshop for the Global Computing Initiative (ESPRIT), Edinburgh-Reino Unido, September 2000.

[C64] - Global Computing - A Vision. *Keynote speech*, Co-operation of Autonomous and Mobile Entities in Dynamic Environments - <http://www.cordis.lu/ist/fet/gc-5fp.htm> . September 2000. A contribution to the definition of this research initiative by the European Commission.

[C65] - Políticas e Técnicas de Regulação do Ciberespaço. *Panel*, Instituto de Defesa Nacional, October 2000.

[C66] - Global Computing: a Vision. *Invited talk*, ESPRIT Information Day, Lisboa, December 2000.

1999

[C51] - A Segurança e a Confiabilidade. *Invited talk*, Encontro de Gestão e Tecnologias da Informação da Universidade de Coimbra (FCT). March 1999.

[C52] - A Segurança e a Confiabilidade ou Casa Roubada, Trancas à Porta. *Invited talk*, Conferência “A Informática e o Novo Milénio” na Universidade Independente, Lisboa. March 1999.

[C53] - Comércio Electrónico: em que ponto estamos? *Panel*, Brazilian Computer Networks Symposium, S. Salvador da Bahia, Brasil, May 1999.

[C54] - Os novos aprendizes de feiticeiros ou como ter um computador é mais arriscado do que parece. *Invited talk*, Brazilian Computer Networks Symposium, S. Salvador da Bahia, Brasil, May 1999.

[C56] - Os novos perigos das sociedades da informação. *Invited seminar*, Mestrado em Engenharia e Gestão de Tecnologia, IST, June 1999.

1996-1998

[C48] - Partial Synchrony Systems. 33rd Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance, Cape Town, South Africa, January 1998.

[C50] - Programming with Quasi-Synchronous Systems. 34th Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance, Tegernsee-Germany, June 1998.

[C42] - The Networks Shared Infrastructure. 1st ESPRIT Long-Term Research Workshop, Newcastle-Reino Unido, March 1997.

[C43] - Cesiumspray: a precise and accurate global clock service for large-scale systems. General CaberNet Workshop, Rennes- França, April 1997.

[C44] - The Role of Time in Distributed Systems. *Invited seminar*, Humboldt Universitat, April 1997.

[C45] - The Role of Time in Distributed Systems. *Keynote speech*, SBRC, Brazilian Computer Networks Symposium, S. Carlos, Brasil, May 1997.

[C47] - From Research to Industry, or how to find your way in the jungle of networked and distributed solutions. *Keynote Speech*, COST Workshop, Lisboa-Portugal, December 1997.

1994-1996

[C34] - Temporal Causal Delivery: the missing link of ordering in real-time systems. 29th Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance, Martinica- França, January 1996.

[C35] - Sistemas Distribuidos, Confiabilidade e Segurança. *Curso de Pós-graduação em Engenharia de Software para Empresas*, Portugal Telecom (1996).

[C37] - Distributed Real-Time Systems. *Cycle of seminars*, Universidades de Santa Catarina, Unicamp, e Porto Alegre, Brasil, September 1996.

[C38] - Cesiumspray: a precise and accurate global clock service for large-scale systems. Dagstuhl Research Seminar on Time Services, Schloss-Dagstuhl- Germany, April 1996.

[C39] - Cesiumspray: a precise and accurate global clock service for large-scale systems. 30th Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance, Appi- Japan, June 1996. Also at Closed BROADCAST WG Workshop, Rennes- França, October 1996.

[C40] - Segurança em Sistemas e Redes. *Cycle of seminars*, Universidades de Coimbra (FCT) e Porto (FEUP). April 1996.

[C41] - A (In)Segurança, as Pessoas, e os Computadores. *Seminário Tecnotrom*, LNETI, Lisboa. November 1996.

[C32] - The impact of group communication paradigms on groupware support. Invited talk, Pohang University, Korea, August 1995.

[C33] - Sistemas Distribuidos, Confiabilidade e Segurança. *Curso de Pós-graduação em Engenharia de Software para Empresas*, SONAE (1995).

[C29] - *Sistemas Distribuidos e Arquitecturas Cliente-Servidor*, Seminário de Engenharia de Software, EngSoft'94. Lisboa, June 1994.

[C30] - *Group-Oriented Systems: concepts and some Design Issues*. Invited talk, INRIA-IRISA *Distinguished Lectures* 1994. Rennes, França, February 1994.

[C31] - *The Rôle of Order and Clock-less Protocols in Distributed Real-Time Systems*. Seminar on Unifying Theory and Practice in Distributed Systems. Schloss-Dagstuhl, Germany, September 1994.

1993

[C23] - *“Slotted Messages: Ensuring Replica Determinism in Preemptive Real-Time Systems”* 23rd Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance, IFIP, Islamorada-Florida, USA, January 1993.

[C24] - Apresentação no 2nd Closed Workshop of the BROADCAST project, Lausanne, March 1993. *Group-orientation in large-scale systems*.

[C25] - Apresentação no 24th Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance. *“Hard Real-Time communication on Standard LANs”*, IFIP, Sarlat- France, June 1993.

[C26] - Apresentação no 1st Open Workshop of the BROADCAST project, Newcastle, October 1993. *Large-scale Group-oriented Systems: Concepts and Some Design Issues*.

[C27] - Apresentação à EMC (CEE): Projecto DINAS-DQS. Tema: "The Distributed Infrastructure of the DINAS Architecture", Berlin - Germany, October 1993.

[C28] - *Group-orientation in Large-Scale Systems: Concepts and Design. Cycle of Invited Talks*, Depts. de Computer Science das U. de Cornell, U. do Arizona e U. de San Diego, November-December 1993.

1991-1992

[C18] - The Extra Performance Architecture of Delta-4 (XPA). *3rd European Workshop on Dependable Computing - Fault-Tolerance for Real-Time, Control and Monitoring Systems*, Munich, Germany, April 1991.

[C19] - Moderador, Painel sobre “Distributed Systems Research in Europe: trends and strategy”. In *ERCIM Workshop on Distributed Systems*, Lisboa, Portugal, November 1991.

[C20] - Distributed Fault-Tolerance and Real-Time with Group Communication protocols. *Conférence Invitée*, École Polytechnique de Lausanne, Lausanne - Switzerland, January 1992.

[C21] - Apresentação no 1st Closed Workshop of the Cabernet - European Network of Excellence on Distributed Computing Systems and Architectures, Toulouse - França, March 1992. *Group Orientation: a Paradigm for Distributed Systems of the Nineties*.

[C22] - LISBOA’92 - An Advanced Course on Distributed Systems, Lisboa - Portugal, July 1992. Lecturer: (1) *Models of Distributed Real-Time Computations*; (2) *Real-Time Communications*; (3) *Case Studies*.

1989-1990

[C11] - Apresentação no General Workshop do Projecto Delta-4. Temas: “The Atomic Multicast Protocol”, “Real-time Communication”. Manchester- Inglaterra, June 1989.

[C12] - Apresentações no 17th Meeting and Workshop of the IFIP 10.4 Working Group on Dependable Computing and Fault Tolerance. *“The AMp atomic multicasting primitive” e “A Fault Model for Fail-controlled Systems”*, IFIP, Martinique- France, January 1990.

[C13] - Apresentações no 1st Open Workshop do Projecto Delta-4. *“The AMp Architecture”*. Toulouse- France, January 1990.

[C14] - Apresentação na Jornada para a qualidade do software. Tema: *Construção de Sistemas Fíáveis: do software à solução final*, APQ- Associação Portuguesa da Qualidade, Lisboa, September 1990.

[C15] - "Kernel Support for Replicated Data". Painel de discussão no *1st Workshop on the Management of Replicated Data*, IEEE, Houston, Texas-USA, November 1990.

[C16] - Atomic Multicasting for Fault-Tolerance in LANs. *4th ACM SIGOPS European Workshop*, ACM, Bologna, Italy, September 1990.

[C17] - Distribution and Fault Tolerance with Reliable Group Communication protocols. *Invited Computer Sc. Colloquium*, University of Arizona, Tucson, USA, November 1990.

1987-1988

[C4] - "Sistemas Distribuidos e Arquitecturas de Computadores", Jornadas Científicas e Tecnológicas da JNICT, Lisboa - Portugal, 1987.

[C5] - Apresentação à EMC (CEE): Projecto Delta-4 - "Atomic Multicasting on Token-bus", Bull-Grenoble-France, February 1987.

[C6] - "Estratégias de Controlo Automático em Edifícios", Seminário sobre Inovação e Novas Tecnologias na Economia de Energia, Lisboa-Portugal, May 1987.

[C7] - "Workshop on Real-Time Communication Systems", NASA Johnson Space Center - Houston-USA, January 1988.

[C8] - Apresentação à EMC (CEE): Projecto Delta-4. Temas: "The Enhanced Physical Layer (EPL) - a redundant non-stop Token-bus Medium", "The AMAZE game: a replicated state-machine using the AMP Primitive", "Medium redundancy in FDDI Lan"; Bull-Grenoble-France, May 1988.

[C9] - "The AMP: A Highly Parallel Atomic Multicasting Primitive", Cornell University, Invited Seminar, Ithaca-USA, October 1988.

[C10] - Apresentação à EMC (CEE): Projecto Delta-4. "XPA: The Delta-4 Enhanced Performance Architecture", Bruxelas - Bélgica, October 1988.

1982-1986

[C1] - "Seminário sobre periféricos de microcomputadores", IST, no âmbito da disciplina de Electrónica Digital III, 1981.

[C2] - "Propagação de sinais em sistemas digitais", INESC, Seminário no âmbito da cadeira de Projecto e Implementação em Hardware do curso de Mestrado, February 1986.

[C3] - "Uma arquitectura de comunicador para Rede Ethernet", 2o Simpósio da Electrónica das Telecomunicações, Forum Picoas, May 1986.