potential to have context sources or sensors (and sensor networks) in the vicinity of a mobile user sold as services to the mobile user, to support context-aware applications. However, challenges are present in order to "elastically" on-demand form clouds of services and resources efficiently, seamlessly and in a robust manner.

References

[1] S. Perez, Mobile cloud computing: $9.5 billion by 2014, http://exoplanet.eu/catalog.php, 2010.
[2] M. Satyanarayanan, Fundamental challenges in mobile computing, in: Proceedings of the Fifteenth Annual ACM Symposium on Principles of Distributed Computing, PODC'96, ACM, New York, NY, USA, 1996, pp. 1–7.
[3] L. Siegele, Let it rise: a special report on corporate it, http://www.economist.com/node/12411882, 2008.
[4] M. Satyanarayanan, Mobile computing, Computer 26 (1993) 81–82.
[5] W. Vogels, A head in the clouds the power of infrastructure as a service, in: Proceedings of the 1st Workshop on Cloud Computing and Applications, CCA'08.
[6] M. Armbrust, A. Fox, R. Griffith, A. Joseph, R. Katz, A. Konwinski, G. Lee, D. Patterson, A. Rabkin, I. Stoica, Above the clouds: a Berkeley view of cloud computing, Technical Report UCB/EECS-2009-28, 2009.
[7] J. Carolan, S. Gaede, J. Baty, G. Brunette, A. Licht, J. Remmell, L. Tucker, J. Weise, Introduction to cloud computing architecture—white paper, 2009.
[8] R. Buyya, C.S. Yeo, S. Venugopal, J. Broberg, I. Brandic, Cloud computing and emerging it platforms: vision, hype, and reality for delivering computing as the 5th utility, Future Generation Computer Systems 25 (2009) 599–616.
[9] Q. Zhang, L. Cheng, R. Boutaba, Cloud computing: state-of-the-art and research challenges, Journal of Internet Services and Applications 1 (2010) 7–18. http://dx.doi.org/10.1007/s13174-010-0007-6.
[10] L. Mei, W. Chan, T. Tse, A tale of clouds: paradigm comparisons and some thoughts on research issues, in: Proceedings of the Asia-Pacific Services Computing Conference, APSCC'08, IEEE, 2008, pp. 464–469.
[11] J. Cheng, R.K. Balan, M. Satyanarayanan, Exploiting rich mobile environments, Technical Report, 2005.
[12] G. Huerta-Canepa, D. Lee, A virtual cloud computing provider for mobile devices, in: Proceedings of the 1st ACM Workshop on Mobile Cloud Computing & Services: Social Networks and Beyond, MCS'10, ACM, New York, NY, USA, 2010, pp. 6:1–6:5.
[13] R.E. Frederking, R.D. Brown, The pangloss-lite machine translation system, in: Proceedings of the Second Conference of the Association for Machine Translation in the Americas, pp. 268–272.
[14] E.E. Marinelli, Hyrax: cloud computing on mobile devices using MapReduce, Masters Thesis, Carnegie Mellon University, 2009.
[15] M. Satyanarayanan, Mobile computing: the next decade, in: Proceedings of the 1st ACM Workshop on Mobile Cloud Computing & #38; Services: Social Networks and Beyond, MCS'10, ACM, New York, NY, USA, 2010, pp. 5:1–5:6.
[16] N. Vallina-Rodriguez, J. Crowcroft, Erdos: achieving energy savings in mobile OS, in: Proceedings of the Sixth International Workshop on MobiArch, MobiArch'11, ACM, New York, NY, USA, 2011, pp. 37–42.
[17] O. Amft, P. Lukowicz, From backpacks to smartphones: past, present, and future of wearable computers, IEEE Pervasive Computing 8 (2009) 8–13.
[18] X. Luo, From augmented reality to augmented computing: a look at cloud-mobile convergence, in: International Symposium on Ubiquitous Virtual Reality, 2009, ISUVR'09, IEEE, 2009, pp. 29–32.
[19] S. Pandey, W. Voorsluys, S. Niu, A. Khandoker, R. Buyya, An autonomic cloud environment for hosting ecg data analysis services, Future Generation Computer Systems 28 (2012) 147–154.
[20] H.-Y. Kung, C.-H. Chen, H.-H. Ku, Designing intelligent disaster prediction models and systems for debris-flow disasters in Taiwan, Expert Systems with Applications 39 (2012) 5838–5856.
[21] N. Aschenbruck, E. Gerhards-Padilla, M. Gerharz, M. Frank, P. Martini, Modelling mobility in disaster area scenarios, in: Proceedings of the 10th ACM Symposium on Modeling, Analysis, and Simulation of Wireless and Mobile Systems, MSWiM'07, ACM, New York, NY, USA, 2007, pp. 4–12.
[22] Y. Sasaki, Y. Shibata, A disaster information sharing method by the mobile servers in challenged networks, in: Advanced Information Networking and Applications Workshops, WAINA, 2012 26th International Conference on, pp. 1048–1053.
[23] M. Satyanarayanan, P. Bahl, R. Caceres, N. Davies, The case for VM-based cloudlets in mobile computing, IEEE Pervasive Computing 8 (2009) 14–23.
[24] E. Cuervo, A. Balasubramanian, D.-K. Cho, A. Wolman, S. Saroiu, R. Chandra, P. Bahl, Maui: making smartphones last longer with code offload, in: Proceedings of the 8th International Conference on Mobile Systems, Applications, and Services, MobiSys'10, ACM, New York, NY, USA, 2010, pp. 49–62.
[25] A. Coronato, G.D. Pietro, Mipeg: a middleware infrastructure for pervasive grids, Future Generation Computer Systems 24 (2008) 17–29.
[26] S. Zachariadis, C. Mascolo, W. Emmerich, Satin: a component model for mobile self organisation, in: R. Meersman, Z. Tari (Eds.), On the Move to Meaningful Internet Systems 2004: CoopIS, DOA, and ODBASE, in: Lecture Notes in Computer Science, vol. 3291, Springer, Berlin, Heidelberg, 2004, pp. 1303–1321. http://dx.doi.org/10.1007/978-3-540-30469-2_31.
[27] J. Flinn, S. Park, M. Satyanarayanan, Balancing performance, energy, and quality in pervasive computing, in: Proceedings of the 22nd International Conference on Distributed Computing Systems, 2002, IEEE, 2002, pp. 217–226.
[28] R. Balan, M. Satyanarayanan, S. Park, T. Okoshi, Tactics-based remote execution for mobile computing, in: Proceedings of the 1st International Conference on Mobile Systems, Applications and Services, ACM, 2003, pp. 273–286.
[29] J. Dean, S. Ghemawat, MapReduce: simplified data processing on large clusters, Communications of the ACM 51 (2008) 107–113.
[30] R. Kemp, N. Palmer, T. Kielmann, H. Bal, Cuckoo: a computation offloading framework for smartphones, in: Proceedings of The Second International Conference on Mobile Computing, Applications, and Services, MobiCASE'10.
[31] R. Van Nieuwpoort, J. Maassen, G. Wrzesińska, R. Hofman, C. Jacobs, T. Kielmann, H. Bal, Ibis: a flexible and efficient java based grid programming environment, Concurrency and Computation: Practice and Experience 17 (2005) 1079–1107.
[32] D.C. Doolan, S. Tabirca, L.T. Yang, Mmpi a message passing interface for the mobile environment, in: Proceedings of the 6th International Conference on Advances in Mobile Computing and Multimedia, MoMM'08, ACM, New York, NY, USA, 2008, pp. 317–321.
[33] BlueCove.org. http://www.bluecove.org/, 2008 (accessed: 17.05.2012).
[34] L. Deboosere, P. Simoens, J.D. Wachter, B. Vankeirsbilck, F.D. Turck, B. Dhoedt, P. Demeester, Grid design for mobile thin client computing, Future Generation Computer Systems 27 (2011) 681–693.
[35] C. Clark, K. Fraser, S. Hand, J. Hansen, E. Jul, C. Limpach, I. Pratt, A. Warfield, Live migration of virtual machines, in: Proceedings of the 2nd conference on Symposium on Networked Systems Design & Implementation—Volume 2, USENIX Association, 2005, pp. 273–286.
[36] B.-G. Chun, S. Ihm, P. Maniatis, M. Naik, A. Patti, Clonecloud: elastic execution between mobile device and cloud, in: Proceedings of the Sixth Conference on Computer Systems, EuroSys'11, ACM, New York, NY, USA, 2011, pp. 301–314.
[37] D. Huang, X. Zhang, M. Kang, J. Luo, Mobicloud: building secure cloud framework for mobile computing and communication, in: Proceedings of the Fifth IEEE International Symposium on Service Oriented System Engineering, SOSE, pp. 27–34.
[38] J. Lockwood, N. McKeown, G. Watson, G. Gibb, P. Hartke, J. Naous, R. Raghuraman, J. Luo, NetFPGA—An open platform for Gigabit-rate network switching and routing, in: Proceedings of the IEEE International Conference on Microelectronic Systems Education, MSE'07, pp. 160–161.
[39] M. Kristensen, Scavenger: transparent development of efficient cyber foraging applications, in: Proceedings of the IEEE International Conference on Pervasive Computing and Communications, PerCom.
[40] D. Borthakur, The hadoop distributed file system: architecture and design, http://hadoop.apache.org/common/docs/r0.18.0/hdfs_design.pdf, 2007.
[41] E. Walker, W. Brisken, J. Romney, To lease or not to lease from storage clouds, Computer 43 (2010) 44–50.
[42] L. Xinhui, L. Ying, L. Tiancheng, Q. Jie, W. Fengchun, The method and tool of cost analysis for cloud computing, in: Proceedings of IEEE International Conference on Cloud Computing, CLOUD'09, pp. 93–100.
[43] D. Narayanan, J. Flinn, M. Satyanarayanan, Using history to improve mobile application adaptation, in: Proceedings of Third IEEE Workshop on Mobile Computing Systems and Applications.
[44] B.D. Noble, M. Satyanarayanan, D. Narayanan, J.E. Tilton, J. Flinn, K.R. Walker, Agile application-aware adaptation for mobility, in: Proceedings of the Sixteenth ACM symposium on Operating Systems Principles, SOSP'97, ACM, New York, NY, USA, 1997, pp. 276–287.
[45] A. Kansal, F. Zhao, Fine-grained energy profiling for power-aware application design, SIGMETRICS Performance Evaluation Review 36 (2008) 26–31.
[46] X. Zhang, A. Kunjithapatham, S. Jeong, S. Gibbs, Towards an elastic application model for augmenting the computing capabilities of mobile devices with cloud computing, Mobile Networks and Applications 16 (2011) 270–284. http://dx.doi.org/10.1007/s11036-011-0305-7.
[47] K. Kumar, Y.-H. Lu, Cloud computing for mobile users: can offloading computation save energy? Computer 43 (2010) 51–56.
[48] C. Wang, Z. Li, Parametric analysis for adaptive computation offloading, SIGPLAN Notices 39 (2004) 119–130.
[49] H. Liang, D. Huang, D. Peng, On economic mobile cloud computing model, in: Proceedings of the International Workshop on Mobile Computing and Clouds, MobiCloud in Conjunction with MobiCASE.
[50] M. Puterman, Markov Decision Processes: Discrete Stochastic Dynamic Programming, John Wiley & Sons, Inc., 1994.
[51] I. Akyildiz, J. McNair, J. Ho, H. Uzunalioglu, W. Wang, Mobility management in next-generation wireless systems, Proceedings of the IEEE 87 (1999) 1347–1384.
[52] I. Constandache, X. Bao, M. Azizyan, R.R. Choudhury, Did you see bob?: human localization using mobile phones, in: Proceedings of the Sixteenth Annual International Conference on Mobile Computing and Networking, MobiCom'10, ACM, New York, NY, USA, 2010, pp. 149–160.
[53] N. Banerjee, S. Agarwal, P. Bahl, R. Chandra, A. Wolman, M. Corner, Virtual compass: relative positioning to sense mobile social interactions, in: Proceedings of the 8th International Conference on Pervasive Computing, Pervasive'10, Springer-Verlag, Berlin, Heidelberg, 2010, pp. 1–21.