**SELECTED STUDIES**

**PAPERS**

**[P1]** Lichtenthäler, R., Wirtz, G. Formulating a quality model for cloud-native software architectures: conceptual and methodological considerations. *Cluster Comput* 27, 4077–4093 (2024). <https://doi.org/10.1007/s10586-024-04343-4>

**[P2]** R. Lichtenthaler, J. Fritzsch and G. Wirtz, "Cloud-Native Architectural Characteristics and their Impacts on Software Quality: A Validation Survey," *2023 IEEE International Conference on Service-Oriented System Engineering (SOSE)*, Athens, Greece, 2023, pp. 9-18, doi: 10.1109/SOSE58276.2023.00008.

**[P3]** J. Kosińska, B. Baliś, M. Konieczny, M. Malawski and S. Zieliński, "Toward the Observability of Cloud-Native Applications: The Overview of the State-of-the-Art," in *IEEE Access*, vol. 11, pp. 73036-73052, 2023, doi: 10.1109/ACCESS.2023.3281860.

**[P4]** Luigi Coppolino, Salvatore D’Antonio, Giovanni Mazzeo, Luigi Romano, Cloud security: Emerging threats and current solutions, Computers & Electrical Engineering, Volume 59, 2017, <https://doi.org/10.1016/j.compeleceng.2016.03.004>.

**[P5]** Sebastian Lehrig, Hendrik Eikerling, and Steffen Becker. 2015. Scalability, Elasticity, and Efficiency in Cloud Computing: a Systematic Literature Review of Definitions and Metrics. In Proceedings of the 11th International ACM SIGSOFT Conference on Quality of Software Architectures (QoSA '15). Association for Computing Machinery, New York, NY, USA, 83–92. <https://doi.org/10.1145/2737182.2737185>

**[P6]** Thomas Welsh and Elhadj Benkhelifa. 2020. On Resilience in Cloud Computing: A Survey of Techniques across the Cloud Domain. ACM Comput. Surv. 53, 3, Article 59 (May 2021), 36 pages. <https://doi.org/10.1145/3388922>

**[P7]** M. Mekki, N. Toumi and A. Ksentini, "Microservices Configurations and the Impact on the Performance in Cloud Native Environments," *2022 IEEE 47th Conference on Local Computer Networks (LCN)*, Edmonton, AB, Canada, 2022, pp. 239-244, doi: 10.1109/LCN53696.2022.9843385.

**[P8]** Ashish Singh, Kakali Chatterjee, Cloud security issues and challenges: A survey, Journal of Network and Computer Applications, 2017, Pages 88-115, ISSN 1084-8045, <https://doi.org/10.1016/j.jnca.2016.11.027>.

**[P9]** G. Vale, F. F. Correia, E. M. Guerra, T. de Oliveira Rosa, J. Fritzsch and J. Bogner, "Designing Microservice Systems Using Patterns: An Empirical Study on Quality Trade-Offs," *2022 IEEE 19th International Conference on Software Architecture (ICSA)*, Honolulu, HI, USA, 2022, pp. 69-79, doi: 10.1109/ICSA53651.2022.00015.

**[P10]** R. Pinciroli, A. Aleti and C. Trubiani, "Performance Modeling and Analysis of Design Patterns for Microservice Systems," *2023 IEEE 20th International Conference on Software Architecture (ICSA)*, L'Aquila, Italy, 2023, pp. 35-46, doi: 10.1109/ICSA56044.2023.00012.

**[P11]** A. Harika, P. Bhavani, P. Sriteja, S. Tajuddin and S. S. Harsha, "Optimizing Scalability and Resilience: Strategies for Aligning DevOps and Cloud-Native Approaches," *2023 3rd International Conference on Innovative Mechanisms for Industry Applications (ICIMIA)*, Bengaluru, India, 2023, pp. 1161-1167, doi: 10.1109/ICIMIA60377.2023.10426288.

**[P12]** M. Usman, S. Ferlin, A. Brunstrom and J. Taheri, "A Survey on Observability of Distributed Edge & Container-Based Microservices," in *IEEE Access*, vol. 10, pp. 86904-86919, 2022, doi: 10.1109/ACCESS.2022.3193102

**[P13]** Niedermaier, S., Koetter, F., Freymann, A., Wagner, S. (2019). On Observability and Monitoring of Distributed Systems – An Industry Interview Study. In: Yangui, S., Bouassida Rodriguez, I., Drira, K., Tari, Z. (eds) Service-Oriented Computing. ICSOC 2019. Lecture Notes in Computer Science(), vol 11895. Springer, Cham. <https://doi.org/10.1007/978-3-030-33702-5_3>

**[P14]** Giovanni Toffetti, Sandro Brunner, Martin Blöchlinger, Josef Spillner, Thomas Michael Bohnert, Self-managing cloud-native applications: Design, implementation, and experience, Future Generation Computer Systems, Volume 72, 2017, Pages 165-179, ISSN 0167-739X, <https://doi.org/10.1016/j.future.2016.09.002>.

**[P15]** Kosińska, J., Brotoń, G. & Tobiasz, M. Knowledge representation of the state of a cloud-native application. *Int J Softw Tools Technol Transfer* 26, 21–32 (2024). <https://doi.org/10.1007/s10009-023-00705-2>

**[P16]** T. Chen and H. Suo, "Design and Practice of DevOps Platform via Cloud Native Technology," *2022 IEEE 13th International Conference on Software Engineering and Service Science (ICSESS)*, Beijing, China, 2022, pp. 297-300, doi: 10.1109/ICSESS54813.2022.9930226.

**[P17]** Mesbahi, M.R., Rahmani, A.M. & Hosseinzadeh, M. Reliability and high availability in cloud computing environments: a reference roadmap. *Hum. Cent. Comput. Inf. Sci.* 8, 20 (2018). <https://doi.org/10.1186/s13673-018-0143-8>

**[P18]** Kiranbir Kaur, DR. Sandeep Sharma, and DR. Karanjeet Singh Kahlon. 2017. Interoperability and Portability Approaches in Inter-Connected Clouds: A Review. ACM Comput. Surv. 50, 4, Article 49 (July 2018), 40 pages. <https://doi.org/10.1145/3092698>

**[P19]** Justus Bogner, Stefan Wagner, and Alfred Zimmermann. 2017. Towards a practical maintainability quality model for service-and microservice-based systems. In Proceedings of the 11th European Conference on Software Architecture: Companion Proceedings (ECSA '17). Association for Computing Machinery, New York, NY, USA, 195–198. <https://doi.org/10.1145/3129790.3129816>

**[P20]** W. Hasselbring and G. Steinacker, "Microservice Architectures for Scalability, Agility and Reliability in E-Commerce," *2017 IEEE International Conference on Software Architecture Workshops (ICSAW)*, Gothenburg, Sweden, 2017, pp. 243-246, doi: 10.1109/ICSAW.2017.11.

**BOOKS**

**[B1]** Titmus, M.A.: Cloud Native Go: Building Reliable Services in Unreliable Environments. (2024).

**[B2]** Indrasiri, K., Suhothayan, S.: Design patterns for cloud native applications: Patterns in Practice Using APIs, Data, Events, and Streams. O’Reilly Media (2021).

**[B3]** Team, F.B.-U.: Cloud-Native application Architecture: Microservice Development Best Practice. Springer (2024).

**[B4]** Gilbert, J.: Cloud Native development Patterns and best Practices. (2018).

**[B5]** Laszewski, T., Arora, K., Farr, E., Zonooz, P.: Cloud Native Architectures: Design High-Availability and Cost-effective Applications for the Cloud. Packt Publishing (2018).

**[B6]** Ahmed, M.I.: Cloud-Native DevOps: Building scalable and reliable applications. Springer Nature (2024).

**[B7]** Hausenblas, M.: Cloud observability in action. Simon and Schuster (2023).

**[B8]** Shah, Mihir.: Cloud Native Software Security Handbook: Unleash the Power of Cloud Native Tools for Robust Security in Modern Applications. (2023).

**INDUSTRY WHITEPAPERS**

**[I1]** Edge Native Application Design Behaviors Whitepaper | CNCF, <https://www.cncf.io/reports/edge-native-application-design-behaviors-whitepaper/>.

**[I2]** Cloud Native Security Whitepaper | CNCF, https://www.cncf.io/reports/cloud-native-security-whitepaper/.

**[I3]** Technologies Overview | CNCF Radars, https://radar.cncf.io/overview.

**[I4]** CNCF Annual Reports 2017-2023 | CNCF, https://www.cncf.io/reports/cncf-annual-report-2023/.

**[I5]** Best practices: Cloud-Native app modernization | Forrester, <https://www.forrester.com/report/the-forrester-guide-to-cloud-modernization/RES176025>.

**[I6]** Cloud-Native Technologies Reignite Portability Strategies | Forrester, <https://www.forrester.com/report/cloud-native-technologies-reignite-portability-strategies/RES175264?ref_search=0_1730679346925>.

**[I7]** How to design your Cloud-Native Patterns for Resilience | Forrester, https://www.forrester.com/report/how-to-design-your-cloud-native-patterns-for-resilience/RES179030?ref\_search=0\_1730679346925.