Multi-tenancy in scientific literature from Software as a Service perspective

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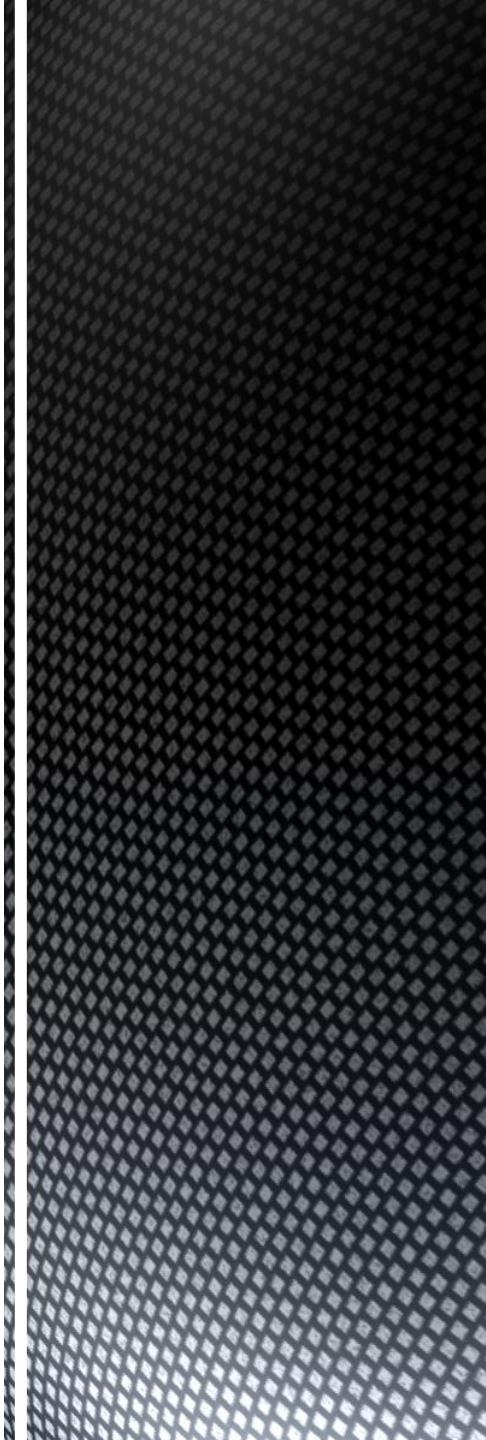

Research questions and data collection

1. *How is multi-tenancy defined in scientific literature?*
2. *What is the connection between multi-tenancy and SaaS business model?*
3. *What challenges the characteristics of multi-tenancy can cause?*

- Search for academic papers → filter out papers → select relevant papers

The definition of multi-tenancy

Multi-tenancy is a property of a system where multiple customers, so-called tenants, transparently share the system's resources, such as services, applications, databases, or hardware, with the aim of lowering costs, while still being able to exclusively configure the system to the needs of the tenant. [1]

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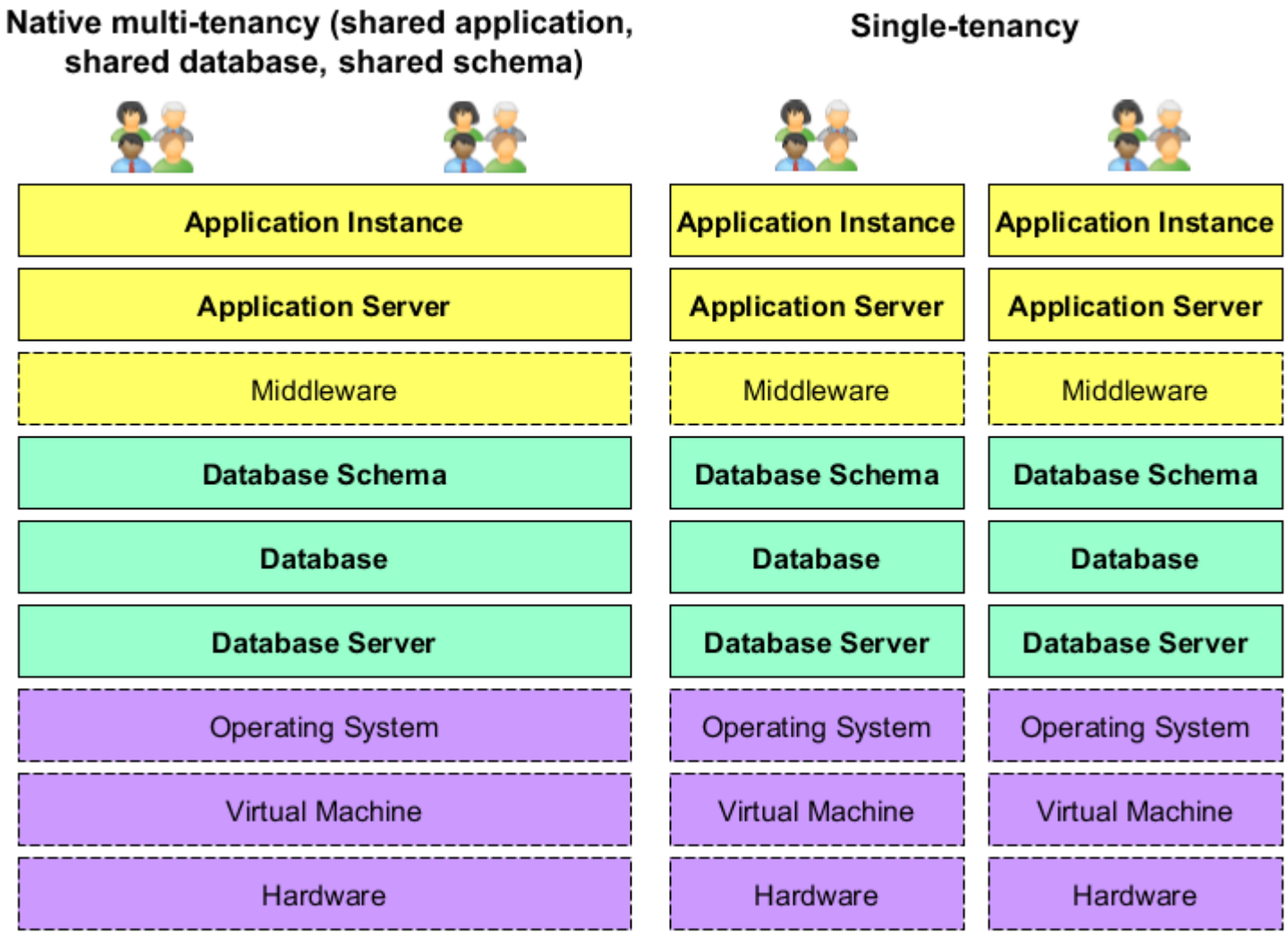
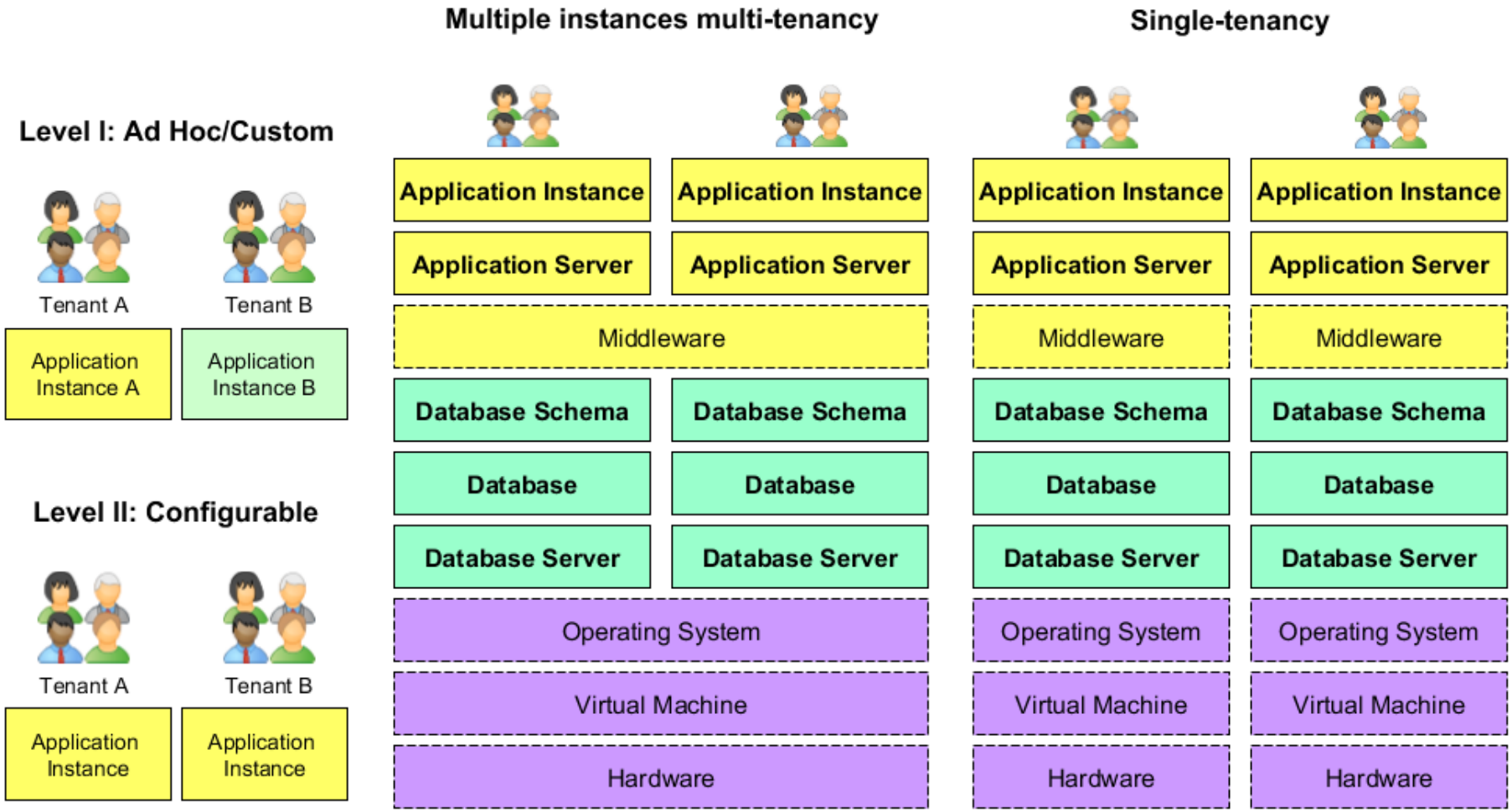
Multi-tenancy and single-tenancy



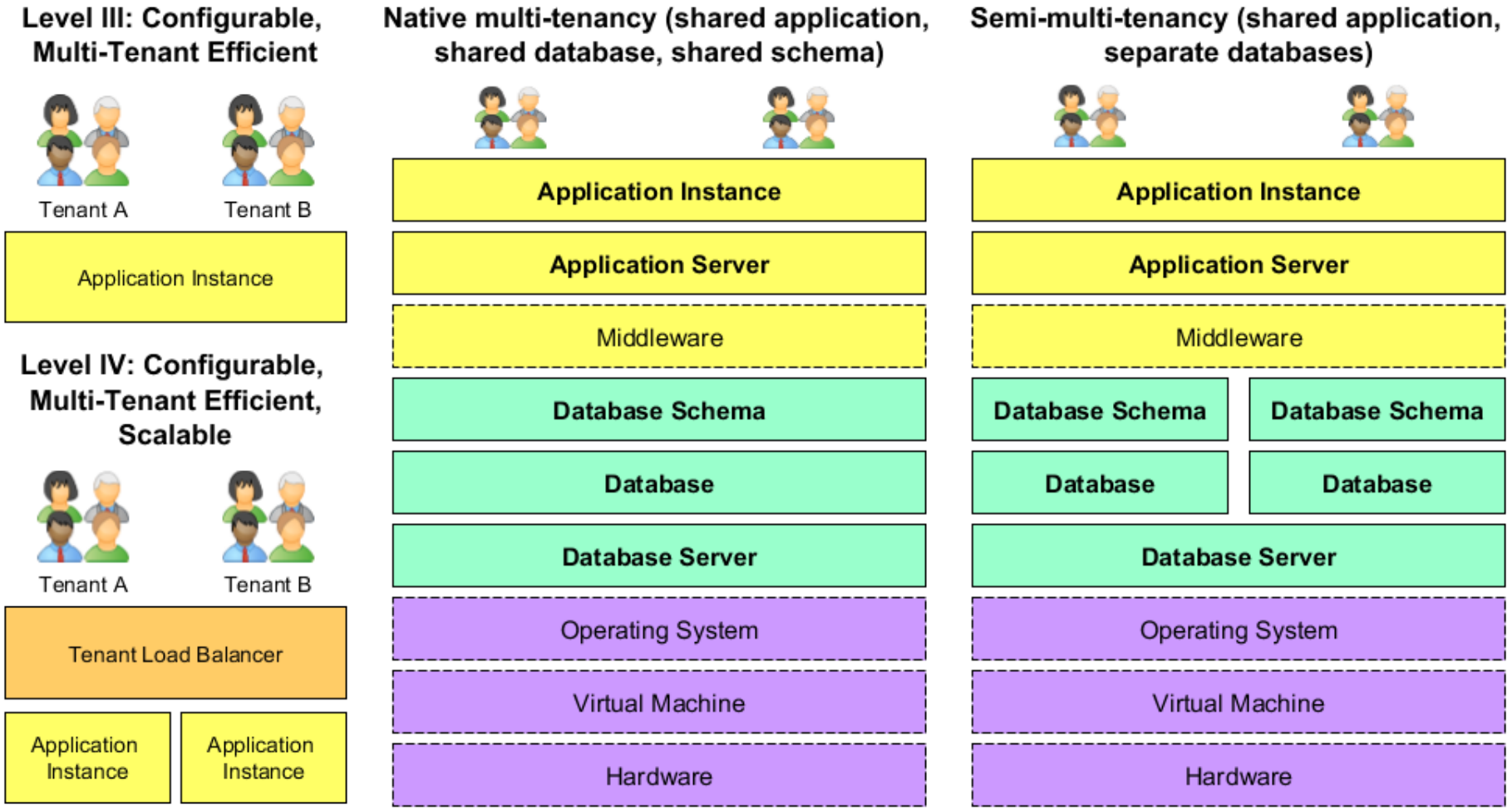
[1], [2], [3]

Multi-tenancy and SaaS



[1], [2], [3], [4]

Multi-tenancy and SaaS



[1], [2], [3], [4]

Conclusion

1. *Many definitions – three main characteristics*
2. *Variants of multi-tenancy – attribute of a mature well-defined SaaS application*
3. *Challenges in performance, maintenance and security areas*

References

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[2] C. J. Guo, W. Sun, Y. Huang, Z. H. Wang, and B. Gao, "A framework for native multi-tenancy application development and management," in The 9th IEEE International Conference on E-Commerce Technology and The 4th IEEE International Conference on Enterprise Computing, Ecommerce and E-Services (CEC-EEE 2007), July 2007, pp. 551–558.

[3] F. Chong, G. Carraro, and R. Wolter, "Multi-tenant data architecture," 2006, accessed: 23.03.2017. [Online]. Available: https://msdn.microsoft.com/en-us/library/aa479086.aspx

[4] F. Chong and G. Carraro, "Architecture strategies for catching the long tail," 2006, accessed: 23.03.2017. [Online]. Available: https://msdn.microsoft.com/en-us/library/aa479069.aspx