



Design principles, architectural smells and refactorings for microservices: A multivocal review

Antonio Brogi, Davide Neri, Jacopo Soldani
University of Pisa, Italy

Olaf Zimmerman
HSR FHO, Switzerland

SummerSoc

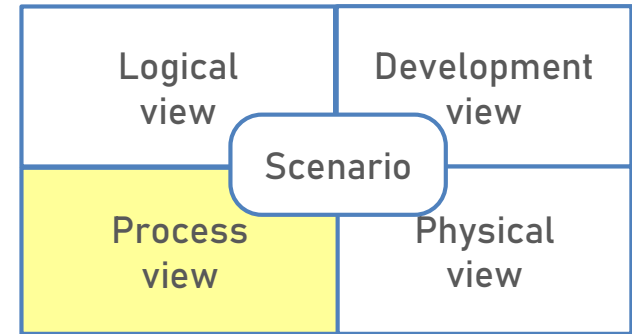
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davide.neri@di.unipi.it

How to check whether one or more microservices design **principles** are **violated** in an application?

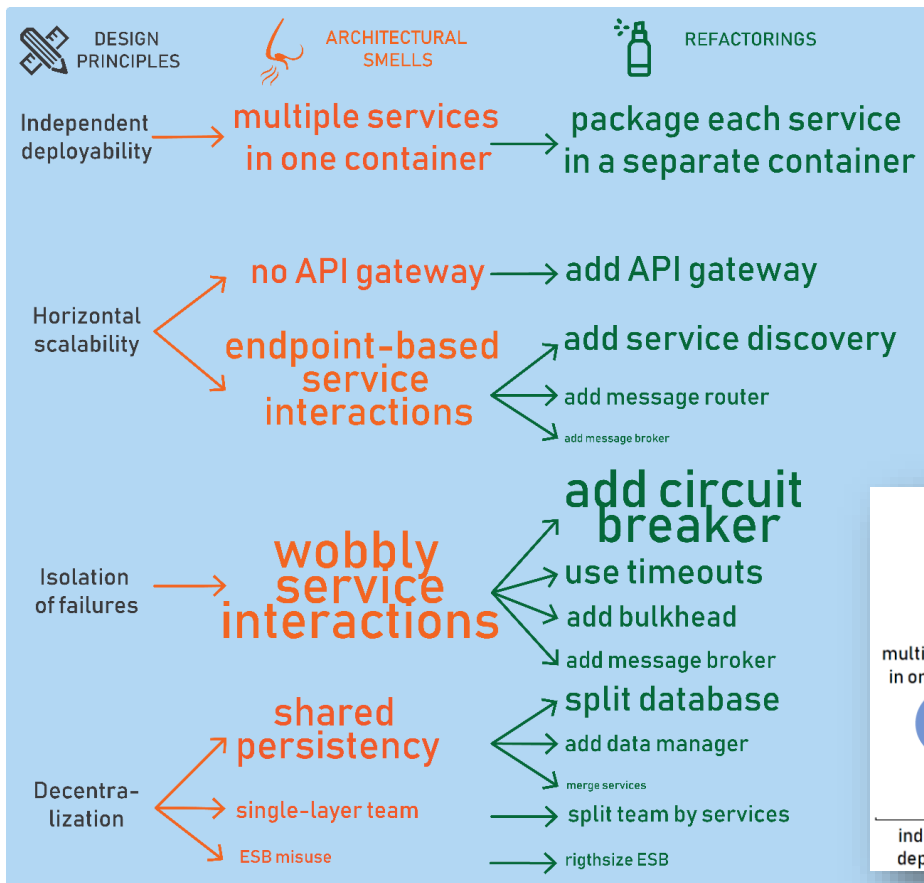
Which **refactorings** can be applied to resolve violations of the principles?

Goal

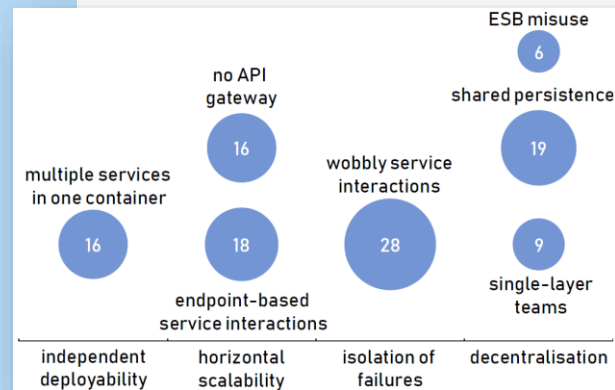


4+1 viewpoint

Result: Taxonomy for microservices

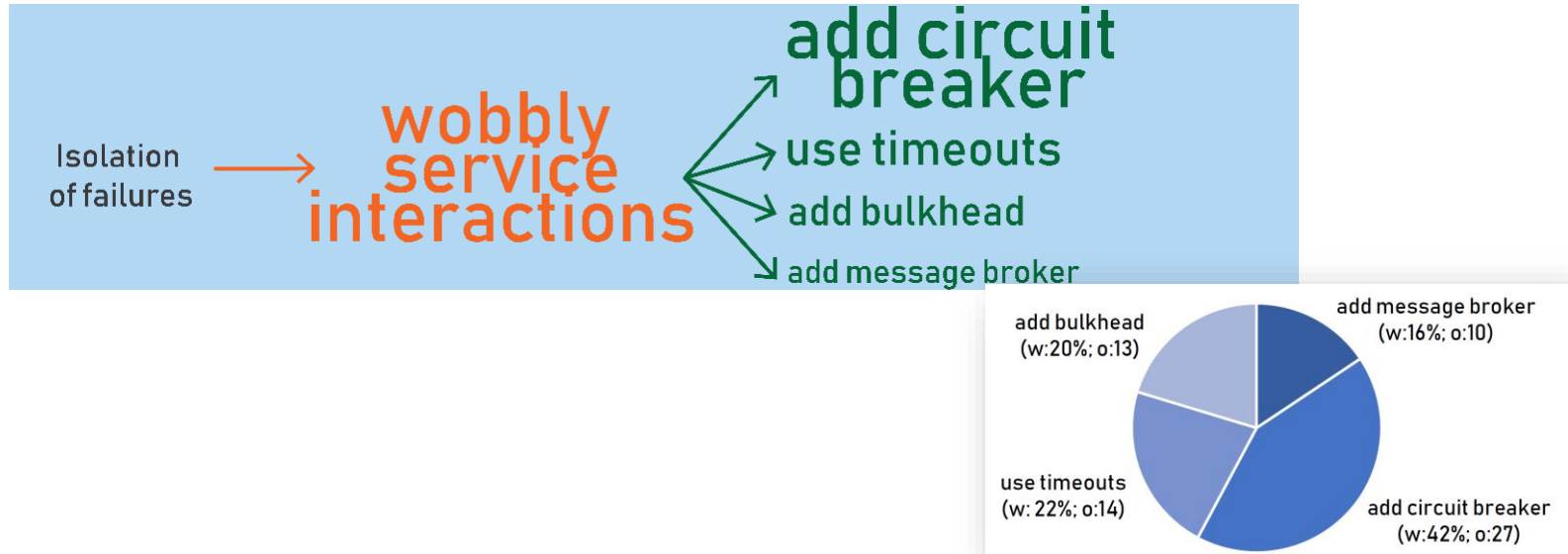


N.B. the size of a word indicates its citation frequency (like "word cloud").



Example: Isolation of failures

A microservice should be designed so that it tolerates the failure of any invocation to the microservices it depends on.



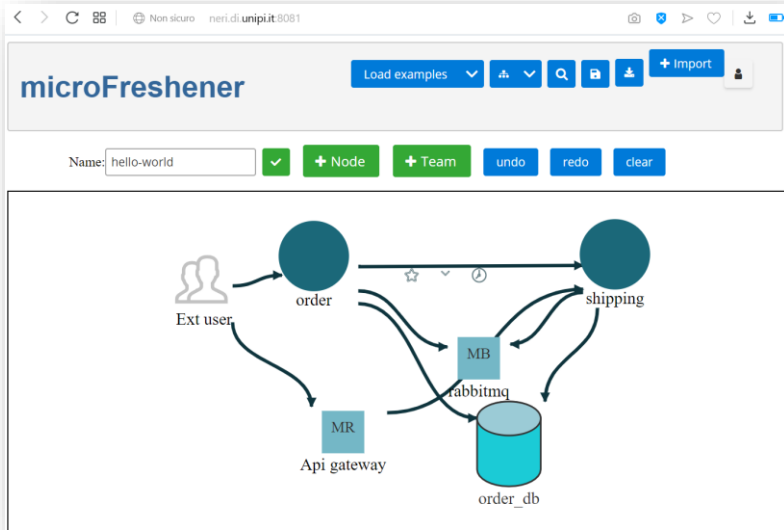
Conclusions

- multivocal review proposing a taxonomy for microservices (4 design principles of microservices, 7 architectural **smells** and 16 **refactorings**)
- taxonomy can help researchers and practitioners to design microservices

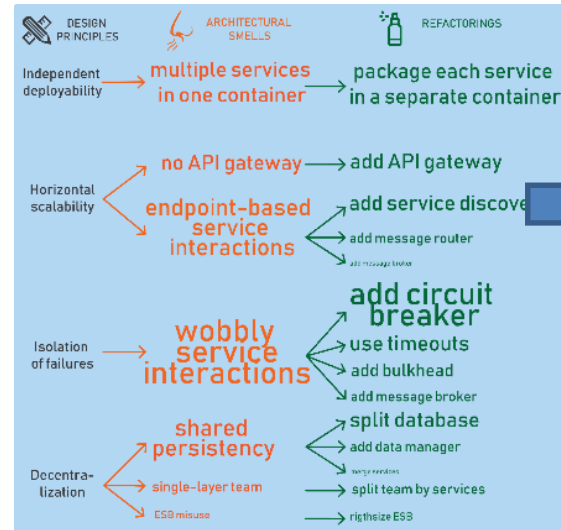
Future work

Design time support for microservices

Tool for automatically detect architectural smells and propose refactorings in microservices.
[submitted for publication]



*Extend taxonomy
(add design principle, add refactorings smells,...)*



Thank you

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