

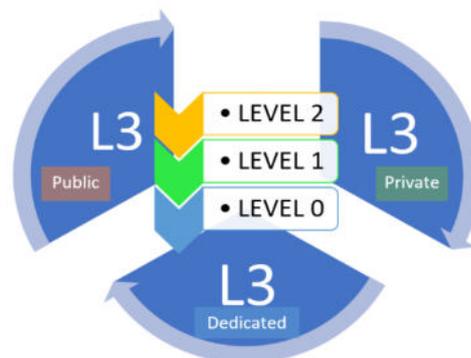
REST API DESIGN PATTERNS AND MATURITY MODEL

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Roy Fielding's dissertation, "Architectural Styles and the Design of Network-based Software Architectures" is a basic work in the field of software architecture, and specifically in the design of network-based software architectures [1]. In the work, Fielding proposes the Representational State Transfer (REST) architectural style, which now is one of the most widely used architectural styles for web-based systems. Overall, the dissertation is a comprehensive and influential work that has had a significant impact on the field of software architecture. REST is not a strict protocol, but rather an architectural style that provides a set of guidelines and best practices for designing web-based systems. This freedom can sometimes lead to issues, such as inconsistent or incompatible APIs, security vulnerabilities, or poor performance. It's important to carefully consider the requirements of your API and its clients and to follow best practices.

The Richardson Maturity Model (RMM) is a model for assessing the maturity level of a RESTful API, based on the degree to which it adheres to the principles of the REST [2]. The model consists of four levels, each representing a higher level of maturity. We propose an alternative model for REST API maturity assessment that defines design patterns required for each level. This model, in picture 1, goes beyond the RMM's four levels by breaking down level 3 into several sections depending on API specialization: public, private, or p2p dedicated. By following this model, you can ensure that your API meets the necessary design patterns for each level.



Picture 1 – An extended REST API maturity model

In conclusion, REST is a popular and widely used architectural style for web-based systems. Every specific implementation will vary based on the features and requirements of the specific system. However, by following a specific RMM blueprint, you can create a well-designed API for a specific purpose.

References

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2. Fowler M. Richardson Maturity Model. URL: <https://martinfowler.com/articles/richardsonMaturityModel.html>