

A Model for the Storage Resource Manager

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The Storage Resource Manager has been proposed as a standard interface for high-end storage systems deployed on Grid architectures. Given the ample range of technical solutions adopted by such systems, the SRM has been defined only in terms of its application programming interface, without attempting to formalize an underlying model. However, a conceptual model would make it easier to define its semantics, it would help implementation developers and provide for more rigorous validation of implementations.

In this paper we propose a conceptual model for the SRM that should supplement the API specification with a clear and concise definition of its underlying structural and behavioral concepts. It addresses both implementation and application developers, so we strive to achieve both clarity and formality. Different notations (e.g., basic set-theoretic and logical formalism, UML diagrams, and plain English) are used as appropriate to define different aspects of the model. We also report on the test methodology that we developed to validate existent implementations.