OMG: Structured Assurance Case Metamodel (SACM)

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Table 1: Data sheet for Structured Assurance Case Metamodel (SACM)

Title	Structured Assurance Case Metamodel
Acronym	SACM
Version	2.1
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Note: The following is an excerpt from the actual document. It is provided here as a convenience and is not authoritative. Refer to the original document as the authoritative reference.

Scope

This specification defines a metamodel for representing structured assurance cases. An Assurance Case is a set of auditable claims, arguments, and evidence created to support the claim that a defined system/service will satisfy the particular requirements. An Assurance Case is a document that facilitates information exchange between various system stakeholder such as suppliers and acquirers, and between the operator and regulator, where the knowledge related to the safety and security of the system is communicated in a clear and defendable way. Each assurance case should communicate the scope of the system, the operational context, the claims, the safety and/or security arguments, along with the corresponding evidence.

Systems Assurance is the process of building clear, comprehensive, and defensible arguments regarding the safety and security properties of systems. The vital element of Systems Assurance is that it makes clear and well-defined claims about the safety and security of systems. Certain claims are supported through reasoning. Reasoning is expressed by explicit annotated links between claims, where one or more claims (called sub-claims) when combined provide inferential support to a larger claim. Certain associations (recorded as assertions) between claims and subclaims can require supporting arguments of their own (e.g., justification of an asserted inference). Claims are propositions which are expressed by statements in some natural language. The degree of precision in formulation of the claims may contribute to the comprehensiveness of an assurance case. The context is important to communicate the scope of the claim, and to clarify the language used by the claim by providing necessary definition and explanations. Context involves assumptions made about the system and its environment. Explicit statement of the assumptions contributes to the comprehensiveness of the argument. Argumentation flow between claims is structured to facilitate communication of the entire assurance case.