## Model (glossary)

model

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- (1) A physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process. (DoD 1998)
- (2) A representation of one or more concepts that may be realized in the physical world. (Friedenthal, Moore, Steiner 2009)
- (3) A simplified representation of a system at some particular point in time or space intended to promote understanding of the real system. (Bellinger 2004)
- (4) An abstraction of a system, aimed at understanding, communicating, explaining, or designing aspects of interest of that system (Dori 2002)
- (5) A selective representation of some system whose form and content are chosen based on a specific set of concerns. The model is related to the system by an explicit or implicit mapping. (Object Management Group 2010)

## Source

(1) DoD. 1998. "'DoD Modeling and Simulation (M&S) Glossary" in *DoD Manual 5000.59-M*. Arlington, VA, USA: US Department of Defense. January. P2.13.22. Available at

http://www.dtic.mil/whs/directives/corres/pdf/500059m.p df

- (2) Friedenthal, S., A. Moore, R. Steiner, and M. Kaufman. 2012. *A Practical Guide to SysML: The Systems Modeling Language*, 2nd Edition. Needham, MA, USA: OMG Press.
- (3) Bellinger, G. 2004. *Modeling & Simulation: An Introduction*. Accessed on 11 September 2012. Available at http://www.systems-thinking.org/modsim/modsim.htm.
- (4) Dori, D. 2002. *Object-Process Methodology: A Holistic System Paradigm*. New York, NY, USA: Springer.
- (5) Object Management Group. 2010. MDA Foundation Model. OMG document number ORMSC/2010-09-06.

## **Discussion**

See also model management, model validation, model-based systems engineering (mbse) , modeling language and modeling tool.

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