

Modeling and Simulation Body of Knowledge (M&SBOK) - Index

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M&S: Technology

Main issues in M&S technology are outlined in the following table:

Table - Main Issues in M&S Technology

Criteria	Main Issues in M&S Technology
Computerization	Conventional computing Web computing Grid computing Cloud computing Mobile computing
Artificial Intelligence	Rule-based systems, knowledge-based systems, expert systems Soft computing Software agents (intelligent agents, emotional agents) Agent-directed simulation <ul style="list-style-type: none">• agent simulation• agent-initiated simulation• agent-supported simulation• agent-based simulation
M&S tools and environments	M&S tools M&S environments Simulative CAPSE (Computer assisted problem solving environments) with simulation abilities)
User/system interfaces	Front-end interfaces Back-end interfaces

Some desirable features in computerization are:

- *Reusability* of software with ties to reusability of specifications
- *Composability*
- *Interoperability*: HLA necessary but not sufficient
- Integrated *composable* M&S ability

Ören and Yilmaz (2005) elaborated on the quality principles for the ergonomics of human-computer interfaces of M&S software.

Ören, T.I. and L. Yilmaz (2005). Quality Principles for the Ergonomics of Human-Computer Interfaces of Modeling and Simulation Software, Proceedings of SIMCHI'05 - 2005 International Conference on Human-Computer Interface Advances for Modeling and Simulation, January 23 - 25, 2005, New Orleans, Louisiana, pp. 5-11