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SYSTEMS ENGINEERING**

**System of Systems Engineering
Collaborators Information Exchange (SoSECIE)**

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**The Internet of Simulation: Enabling Agile Model Based Systems Engineering
for Cyber-Physical Systems**

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The expansion of the Internet of Things (IoT) has resulted in a complex cyber-physical system of systems that is continually evolving. With ever more complex systems being developed and changed, there has been an increasing reliance on simulation as a vital part of the design process. There is also a growing need for simulation integration and co-simulation in order to analyze the complex interactions between system components. To this end, we propose that the Internet of Simulation (IoS), as an extension of IoT, can be used to meet these needs. The IoS allows for multiple heterogeneous simulations to be integrated together for co-simulation. Its effect on the engineering process is to facilitate agile practices without sacrificing rigor. An Industry 4.0 example case study is provided showing how IoS could be utilized.

Biography

Dr. Stephen Clement is currently a member of the Distributed Systems and Services research group in the University of Leeds, School of Computing. He received a PhD from the University of York in 2015 for his work on 3D face analysis using Machine Learning. Since then he has worked across three UK Universities on a £10m, EPSRC-Jaguar Land Rover jointly funded project, entitled “The Programme for Simulation Innovation (PSi)”. Stephen’s research interests are developing tools for distributed simulation and optimization to improve collaborative virtual prototyping.