

Maths DSIG Agenda rev 1

13:30 – 16:30 Wednesday, 25th March 2015

- 13:30 – 14:15 A Metamodel for Optimization Tools: Its Form and Usage¹
Peter Denno, NIST
- 14:15 – 15:00 A Service Oriented Virtual Environment For Complex System
Design and Analysis²
Prof Charles Dickerson, Loughborough University
- 15:00 – 15:30 Break
- 15:30 – 16:30 Discussion: *What is the best approach for implementing: (i) a
metamodel for optimization tools; and (ii) a relational oriented modelling and
simulation framework in a service environment, using OMG standards?*³
- 16:30 Adjourn

¹ Peter's presentation will include a discussion of optimization languages such as OPL and AMPL. The technical/ mathematical point for OMG is whether there is a standard to be written.

² This presentation is based on a recent IEEE paper written by Loughborough University, the University of Leeds, and Jaguar Land Rover. This is the first public release paper on our research about using ROSETTA for virtual design and prototyping. The technical/ mathematical approach to using relational orientation will be illustrated using two elementary case studies. The point for OMG is how to implement ROSETTA, which is a mathematically based matrix framework, using OMG object oriented standards.

³ Following up on the first two presentations, this session will be a discussion whether existing OMG standards are sufficient to implement the metamodel and the framework discussed in the first two sessions.

Acronyms

- AMPL This is a modeling tool for the entire optimization modeling lifecycle.
- CPLEX This is one of several solvers for the AMPL tool. See <http://ampl.com/>
- ROSETTA Relational Oriented Systems Engineering Technology Trade-off and Analysis