

“Automated grid services composition for CAE of aperture-antenna arrays”

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Abstract – Many electromagnetic applications require the availability of high computing performance, Computer Aided Engineering (CAE) of aperture antenna arrays being an example. Due to the complexity of the involved problems, a suited approach consists in partitioning the whole problem into simpler units, identifying available software solutions (possibly developed by autonomous research groups) for each sub-problem, and aggregating them into a workflow. Such an approach requires the support of an effective and efficient cooperative framework, able to aggregate geographically dispersed and heterogeneous resources. A very recent technology, named semantic grid, is emerging as the “killer” technology able to sustain complex cooperative-engineering tasks. This work demonstrates the suitability of semantic grid technology to attack complex CAE problems.