

<b>Student Name</b>	Peter Bull
<b>Company</b>	BAE Systems
<b>Research University</b>	Loughborough
<b>Academic Supervisor (s)</b>	Dr Lin Guan
<b>Title</b>	Stochastic Modelling of System Performance for Large-Scale Systems (and Systems-of-Systems)
<b>Abstract</b>	<p>There is currently much UK government and industry thinking towards the integration of existing complex computer-based systems, including those in the military domain, using open network platforms, standards and technologies. A key problem in the development and deployment of such systems will be the determination and handling of emergent properties of the complex system itself and ultimately as part of combined system-of-systems (SoS) scenarios.</p> <p>A research project is thus proposed to investigate the development of a large-scale system/SoS architecture that will facilitate the dynamic interactions that such systems will require. The project will build on current work in the Systems Engineering Innovation Centre (SEIC) and in Loughborough University Computer Science Department. There are two main aspects to the project:</p> <ul style="list-style-type: none"> <li>- Firstly the correct software architecture must be chosen to facilitate this type of system and models must be developed that support this.</li> <li>- Secondly the software architecture developed must be shown to be capable of delivering the necessary real time performance.</li> </ul>