Model Based Software Validation
G. Garcia, TAS

Model based techniques are now widely accepted on the descending branch of the V development cycle and have demonstrated major gain in terms of productivity for the development phases (refer to Savoir-Faire WG outcomes). Thales Alenia Space is applying these techniques operationaly sucessfully on several projects (Globalstar, S3, O3B, Irridium, ...). Together with the other divisions of the Thales Group, we have defined a component model and the associated tools that permit to generate up to 40% of the source code automaticaly (without taking into account AOCS automatic generation); the unit tests are also generated improving the software productivity. The next area of improvement in the TAS roadmap is to apply the same recipes for the validation process expecting similar (or even better) gain in validation productivity and quality. This presentation will show the different initiatives on-going at TAS and Thales group level, in particular by presenting two studies currently running. The first one is a European project called VERDE lead by Thales having for objective to rely on component models established during development phase to improve validation process, in particular permitting to specify tests, observe and verify the software execution at the level of abstraction of the component model. The second one will present a Thales group level internal study trying to define a trans-division validation model that will be supported by tools and capable to express system under test definition, test campaign definitions. The interest of such model based validation approaches for the space software development will be discussed and a perspective with regards to current SAVOIR-FAIRE activities will be proposed.