

## **Validating 48 spacecrafts in integration efficiently... automated testing based on OBCPs**

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3 major contracts concerning constellations of spacecraft are on-going at Thales Alenia Space : Globalstar, O3B and Iridium. These projects require innovative approaches in many areas due to the number of spacecrafts involved and in particular for the validation of the integration during the AIT phases. After the PFM models, the other spacecrafts validation is basically limited to the validation of the correct integration of the different elements, but as this activity is repeated for each spacecraft any optimisation has a tremendous impact on the overall project planning and budget. Thales Alenia Space has used an on-board interpreter developed with CNES to enhance the integration validation in AIT. The tests are directly run autonomously by the on-board software and the test sanction is also calculated on-board; at the end of the test a failed/pass detailed status is emitted through TM by the OBCP itself. The paper will present the needs for auto-testing of the spacecraft, OBCP interpreter used, the benefits of such an approach and the applicability to other more traditional projects.