

FPGA SUPPORT (TEAM PACKAGE)

Aerospace

Project
Management



Electrical
Engineering



PACKET-ROUTING FPGA CODEBASE FOR HEAVY-LIFT LAUNCH VEHICLE SECOND STAGE

APPROACH

- Supply a team of up to five FPGA engineers working in the client's system to develop FPGA components from concept to completion for a packet-routing FPGA used on the second stage of a heavy-lift launch vehicle
- Extensive use of Avalon and AXI
- Integrate into client's Agile approach: daily scrum and bimonthly retrospectives
- Work with client to help refine their process

RESULTS

- Developed large portions of the FPGA routing pipeline
- Came up to speed on the client's extensive library when architecting new components
- Helped client debug existing issues in previously generated IP
- Designed, implemented, modeled, and simulated packet routing, IPv4, UDP, DDR3, LVDS, and Ethernet
- Modeled all designs in MATLAB
- Created simulations in ModelSim and Questasim, auto-checking test benches

KEY TOOLS & TECHNOLOGIES

- SmartFusion2 FPGAs
- Microsemi Libero
- ModelSim, Questasim, MATLAB

ALTEN TECHNOLOGY