

NOVO SPACE

I worked for a year at an exciting aerospace start-up as an embedded systems leader. I've developed firmware for complex SoCs, analysis of new technologies, port of bootloaders, port of embedded linux, device drivers, baremetal C and ASM startup coding, analysis of aerospace software, among other related activities. I've worked in a team with other 15 specialists, but I quit due to moving to another country.



figure 4: A capture of an embedded Linux (left) ported from scratch and running on NOVO SPACE boards (right).

During my job at [NOVO SPACE](#) I mainly work as a lead firmware developer. At the beginning the main focus of the job was:

- Bringup the fresh new NOVO boards
- Write startup firmware for SoC's (ARM C-M0 with FPGA)
- Write FPGA interfaces and connect them with firmware drivers
- Golden mode firmware image recover
- Reliance edge, wear leveling capable file system port/choose/select/implement
- Memory stress test
- Telemetry report of main internal values from the very early code until main app runs
- Bootloader develop/port
- u-boot as a general bootloader ported to a very constrained M0 and without DDR
- FreeRtos ported to M0, DDR access through FPGA and then a file system over that was mounted.
- NASA CFS ground app connected with the boards
- DAP protocol access from python script to a memory mapped internal bank as a telemetry
- Port and run custom <800kB Linux kernel + FS for C-M0, with custom timer and UART device drivers with a minimal busybox RAM file system and launched from a custom u-boot from NOR to DDR.
- HUGO documentation and gitlab CI/CD daily use.

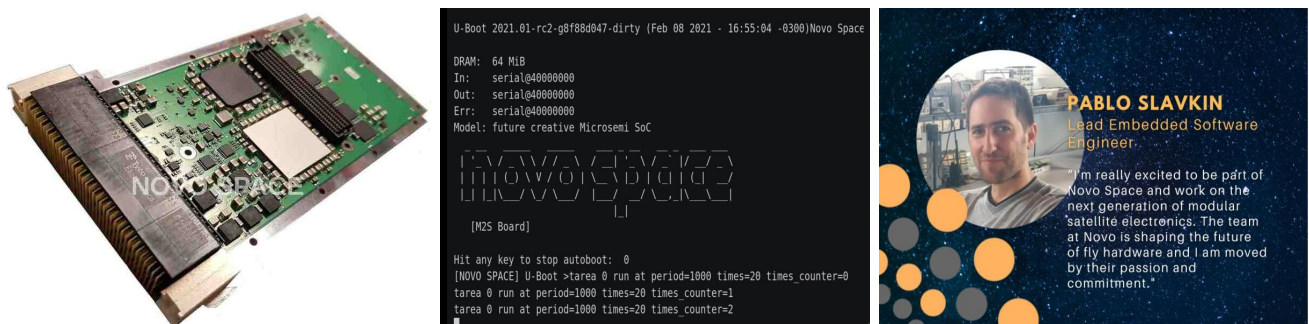


figure 5: Novo super high speed and complex boards with a u-boot running on it.