

Enea Linux Distribution

AREA OF COMPETENCES: Embedded Systems and Microelectronic
INDUSTRY: Telco

CHALLENGE

ENEAA

Enea needed a qualified team of engineers for continuous working at development and improvement of LINX. This product provides reliable, high-performance, inter-process communications services that make complex distributed systems easier to conceptualize, model, partition, and scale.

Utilizing direct message passing, LINX is the only IPC technology that scales from DSPs and microcontrollers to 64-bit CPUs. Together with Enea team, our people are responsible for continuous improvement of product by adding new communication protocols, maintaining product competitiveness versus other similar market offer, up-dating and creating new version by adding the newest competences, creating new LINX versions that will supported on the newest embedded environments.

SOLUTION

By working closely with Enea we developed a plan to assemble a team of experienced embedded software engineers with various expertises like driver and firmware development, TCP/IP stack development and RTOS knowledge in general. The new organization group mirrored the existing ENEA R&D organization and was connected directly with existing Enea development teams. They were immediately involved in on-going and coming projects.



During product improvement we had several responsibilities:

- Develop new connection management modules to add support for new embedded communication medias;
- Design and develop test framework for multiple Linx environments;
- Update gateway and name-server modules;
- Integrate Linx modules with OSE and OSEck systems;
- Update Linx benchmarking application.

For this project we used the newest development stack and prototypes from the well-known embedded suppliers as Freescale, Intel, Texas Instruments and used the newest communication environments as RAPID IO.

Technologies:

- Hardware: Freescale Starcore Family, Texas Instruments c64x+ Family
- Software: Code Warrior IDE, Code Composer, GCC/GDB, Linux.

After product optimization, we obtained better results than the classic communication products (e.g. TCP/IP). The results were implemented also on an Open Source version. Linx and its collateral modules are distributed as Open Source version that runs on Linux. By offering this fundamental communications framework freely, Linx will increase access to this superior technology, and enable system designers to get higher quality products to market more rapidly LINX makes it easier to conceptualize, model, partition, and scale complex distributed systems. The LINX protocol may run natively over any interconnect, but may also use other standard protocols such as TCP and UDP as “bearer protocols”. The LINX addressing model supports any system topology (multiple hops, gateways, etc.) and its efficient connection-based algorithms allows LINX to scale well to very large systems.