



PRESS RELEASE

Enea adds Enea Linux to its leading operating system solutions

Enables Realtime and Linux Implementations in Next Generation Networking Infrastructure

STOCKHOLM, Sweden and SAN JOSÉ, US, March 27, 2012 – Enea® (NASDAQ OMX Nordic: ENEA), the world's leading operating system solution vendor for 3G and 4G infrastructure equipment, is today announcing Enea Linux together with complementing innovative technologies addressing next generation networking infrastructure demands.

Enea Linux is a Yocto-based Linux distribution available with customized services and support. In addition, Enea is launching a range of technology innovations allowing for realtime characteristics in Linux-based solutions, enhancing the performance and applicability of Linux in networking infrastructure.

- The Enea Light-Weight Runtime Threads (LWRT) technology will provide improved realtime characteristics in Linux user-space, delivering scheduling, message passing, and resource management functionality. Applications will be able to run with improved determinism and with minimal overhead, addressing some of the key concerns that networking and telecom users have had with traditional Linux solutions.
- The Enea Packet Acceleration foundation (PAX) will be a modular, graph structured framework designed for high performance HW-accelerated packet processing. It is ideal for IP transport-related solutions such as vertically integrated SCTP or GTP termination for RAN nodes.
- Specialized systems virtualization solutions through the micro kernel based Enea Hypervisor for high-performance, deterministic embedded code and through KVM for separation of management and control functionality.

“With Enea Linux and our innovative value-added technologies we have a powerful solution for addressing the Linux and realtime operating system challenges that customers building the next generation networking infrastructure are faced with”, says Anders Lidbeck, President and CEO of



Enea. “Working closely with leading telecom manufacturers we have tailored a Linux distribution that meets the industry’s key requirements on flexibility, reliability and performance.”

Enea Linux

Enea Linux is powered by the Yocto Project (<http://www.yoctoproject.org>) open source configuration and build technology, and contains 120+ packages specifically selected for telecom needs. Yocto brings standardized features and tools, and ensures quick access to the latest Board Support Packages (BSPs) for the most common HW architectures.

Enea Linux provides a comprehensive cross-development tool chain and runtime environment for common networking target architectures, and is an integrated, modular, solution which can be combined with Enea and other proprietary technologies, depending on the specific use cases and requirements.

Enea Linux has several benefits:

- Long term commitment and support, with a technology evolution in 18 month stable release cycles for predictability,
- Dedicated Linux core development team,
- Leading services organization with 300+ service engineers,
- Dedicated Enea Linux support teams distributed worldwide to ensure local and timely support in all regions,
- Proven technical alignment process for close cooperation and joint development,
- Open Source community participation and upstream service for community contributions,
- Legal insurance and responsibility.

Enea Linux is available for evaluation on Freescale P4080, LSI ACP3448 and AMCC PPC440 architectures.

Enea Light Weight Runtime Threads (LWRT)

Enea LWRT is a multicore execution environment completing Linux user-space with functionality and characteristics needed by many communications applications. This functionality is traditionally provided by realtime operating systems, but might be missing completely when running under Linux.



Enea LWRT provides user-space implementations of scheduling, message passing, and resource management, and unlike functionality provided by the kernel, the user-space implementation can be used without the overhead and indeterminism caused by context switches to supervisor mode.

This enables an all-Linux solution which even incorporates critical real-time functions such as data path processing.

A consistent API between Linux and Enea's RTOS makes Enea LWRT ideal for situations where development needs to start early, with a late decision to deploy on either RTOS or Linux, or for that matter parallel development and deployment on both RTOS and Linux.

Enea Packet Acceleration Foundation (PAX)

Enea PAX is a modular and user-extensible foundation for HW-accelerated packet processing, primarily targeted for Linux user-space execution on multicore processors.

The architecture is based on a directed graph of filters with run-to-completion processing of each packet. All drivers and network functions are implemented using multiple input/multiple output filters. The framework itself supports tracing of packets and profiling of filters. The Filter graph-based framework is specifically designed to utilize many common HW accelerations such as buffer management and queues, packet parsing, classification and distribution.

Enea PAX is suitable for layer 2 (e.g. VLAN/bridging/bonding/tunneling), layer 3 (e.g. IP tunneling/forwarding/IPSec) and layer 4 (e.g. UDP/GTP-U termination) packet processing.

Enea PAX can be used for implementing the eNodeB/RNC control plane with an integrated IP/SCTP stack. It can also be used for implementing the eNodeB user plane with a vertically integrated RoHC/IP/IPSec/GTP-U stack. Extensions and customizations such as DPI and policy enforcement can be embedded into Enea PAX.

Enea Tools and Middleware Together with Enea Linux

The Eclipse-based Enea Optima tools suite supports best-in-class Linux tools for all phases of development, including unit debug, integration, optimization, and maintenance. Optima can be used natively, in distributed systems through remote agents or via 3PP JTAG debuggers.

Enea Element simplifies the development of telecom-grade distributed systems by providing frameworks for messaging, debug and trace, management, and high availability, including in-



service software upgrade. Element is modular, enabling tuning of footprint and functionality and can adapt to a range of system architectures ranging from single nodes to AdvancedTCA chassis to cloud-based platforms.

The Enea Polyhedra® relational database system, the Enea LINX inter-process communications service, and the Enea Gateway (connecting Enea Optima tool suite with Enea's RTOS targets) will be integrated in the first Enea Linux release.

For more information visit www.enea.com or contact:

Europe & North America:

Catharina Paulcén, VP Communications

Phone: +46 8 507 140 00 or email: catharina.paulcen@enea.com

Asia Pacific:

Fredrik Sjöholm, Vice President of Software Sales Asia

Phone: +46 8 507 140 00 or email: fredrik.sjoholm@enea.com

About Enea

Enea is a global software and services company focused on solutions for communication-driven products. With 40 years of experience, Enea is a world leader in the development of software platforms with extreme demands on high-availability and performance. Enea's expertise in realtime operating systems and high availability middleware shortens development cycles, brings down product costs and increases system reliability. Enea's vertical solutions cover telecom handsets and infrastructure, medtech, automotive and mil/aero. Enea has offices in Europe, North America and Asia. Enea is listed on NASDAQ OMX Nordic Exchange Stockholm AB. For more information please visit enea.com or contact us at info@enea.com.

Enea®, Enea OSE®, Netbricks®, Polyhedra® and Zealcore® are registered trademarks of Enea AB and its subsidiaries. Enea OSE®ck, Enea OSE® Epsilon, Enea® Element, Enea® Optima, Enea® Optima Log Analyzer, Enea® Black Box Recorder, Enea® LINX, Enea® Accelerator, Polyhedra® Flashlite, Enea® dSPEED Platform, Enea® System Manager, Accelerating Network Convergence(TM), Device Software Optimized(TM) and Embedded for Leaders(TM) are unregistered trademarks of Enea AB or its subsidiaries. Linux as a trademark is owned by Linus Torvalds and administered by the Linux Mark Institute. Any other company, product or service names mentioned above are the registered or unregistered trademarks of their respective owner. © Enea AB 2012.