# Enea® OSE Compatibility Platform

When introducing Linux into your Enea OSE based system, how can you retain and extend the value of legacy investments, and how can you find cost-efficient, incremental steps with low risk when doing so? How do you achieve "enough" real-time characteristics, IPC performance, scalability, and OSE compatibility for maximal SW reuse?

The answer is Enea OSE Compatibility Platform (OCP).

The OSE compatibility platform consists of a Linux OSEAPI layer that provides full Linux POSIX API, as well as OSE programming, inter-process communication and file system formats. And it is to be used as a complement to using the full OSE Real-Time operating system in cases where the level of determinism and worst-case latency (typically required in RTOS based systems) are not entirely required.
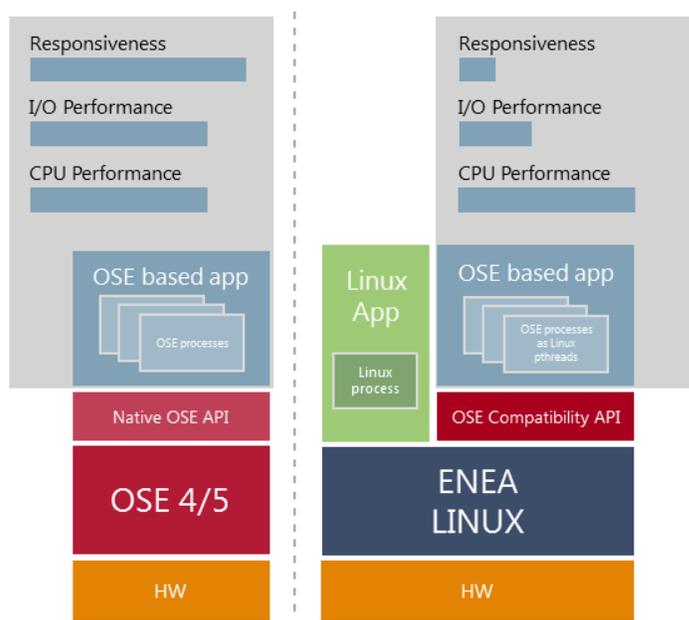


The efficient message passing communication mechanism and real-time scheduling model of OSE are implemented in OSEAPI, which allows OSE load modules to be compiled and run as Linux user-mode processes. These processes running within the OSEAPI environment in a Linux system will be able to communicate directly with both OSE 5 and OSE 4 remote nodes.

The OSEAPI layer is implemented as one OSEAPI daemon, and it is based on a proven-in-use OSE kernel functionality that runs in a user-space POSIX thread including a light-weight OSE scheduler. The OSEAPI daemon supports multiple OSE based applications on separate Linux processes, and it handles central as well as distributed OSEAPI resource management.. Within the OCP, Enea also provides the Enea® ExtFAT File System for Linux, using the same format as the OSE 5 ExtFM file system. The OSE ExtFAT on Linux component is independent of OSEAPI and based on FUSE, and it allows Linux applications to use the same media as OSE 5.

# Enea® OSE Compatibility Platform

## OCP is packaged with Enea Linux

OSE File System full compatibility
- Enea Linux can locally read/write files created by OSE and vice versa (ex: SD flash cards).

- POSIX access in Enea Linux to remote OSE FS, and vice versa.

OSE5 API interface compatibility
- Reuse the OSE LM/application concept on Enea Linux.

- Rebuild OSE load modules as Linux programs.

- Maintain customer middleware platform architecture on Linux.

- Enea can provide list of API functional coverage.

Full IPC compatibility
- Link Handler for Enea Linux that is backwards compatible with both Linx for Linux and LNH network protocols.

- Linux applications can communicate with other Linux applications and legacy OSE applications using Enea IPC.


## Commercially OCP offers

- Lower cost of Linux introduction.

- An introduction of Linux in your solution without the need to re-write existing OSE applications.

- Faster time-to-market for new applications running on Linux.

- The only Linux distributor that understands both Linux and OSE.

- A Linux distribution that focuses on similar challenges as OSE (real-time, virtualization, networking)

## Technically OCP provides

- OSE API interface compatibility.

- Full file system compatibility with OSE.

- The same execution environment for OSE and Linux applications.

- Re-use of existing OSE test systems.

- A wide range of existing Linux tools.

**ENEA**