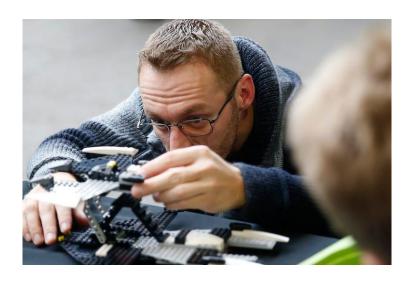


# MirageOS towards a smaller and safer OS

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An Operating System by yourself

```
unipi$ ls -alh unipi.hvt
-rwxr-xr-x 1 dinosaure dinosaure 16M ... unipi.hvt
```

#### An smaller one



A safe one
OCaml
type system
bounds checking

```
unipi$ opam install mirage
unipi$ mirage configure -t hvt
unipi$ make depends
unipi$ mirage build
unipi$ file unipi.hvt
unipi.hvt: ELF 64-bit LSB executable, x86-64
```

```
unipi$ opam install mirage
unipi$ mirage configure -t hvt
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unipi$ file unipi.hvt
unipi.hvt: ELF 64-bit LSB executable, x86-64
```

A config.ml to describe your *unikernel*. Your unikernel.ml to implement the first *entry-point* of your Operating System.

- Multiple targets (KVM, Xen, Unix)
- Orchestration of libraries (Functoria)
- Package manager (OPAM)
- Linking-process according the target (mirage)

MirageOS - an ecosystem

## MirageOS - an ecosystem

Network interface	tuntap, vmnet, rawlink
Protocol	ethernet, ARP, ICMP, TCP, UDP, DNS, HTTP, Git, SMTP
Security	X509, ASN.1, TLS, SSH
Cryptography	BLAKE2, SHA, ECDH, AES, RSA
Format	ZLIB, GZIP, FAT, TAR, PACK

#### MirageOS - an ecosystem



Interfaces lead the ecosystem





## Conclusion