DATASHEET
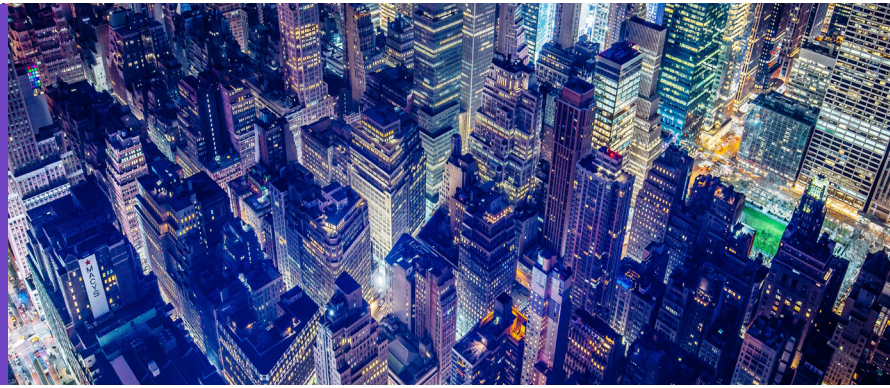
FlexCPE Solution

Get the most out of your CPE by enabling customer edge applications

A Smart Access Device

FlexCPE is the next-generation of customer premises equipment (CPE), designed to enhance your network's capabilities.

More than just a router, FlexCPE allows you to run and manage advanced applications directly on the device, using efficiently available resources like CPU, RAM, and storage.

OneOS6 ensures these applications operate within strict security boundaries and that primary networking functions always receive priority.

FlexCPE delivers flexibility, improved performance, and seamless application integration at the network edge.

Why FlexCPE

Service providers are challenged by cloud application providers to be reduced to connectivity providers. To fight that trend, they need to be able to compete on speed when deploying innovations. Quite often, this leads to a multiplication of devices at the customer site, which is hampering eco-footprint, but also increases the complexity of management and deployment significantly, requires truck-rolls and huge efforts in staffing and training.

Innovative Software editors on the other hand have a challenge to deploy and manage/supervise "always on" applications that must run on site, in branch offices, stores or industrial locations. Reasons for requiring such on-site applications are multiple: low latency, resiliency, data confidentiality, high data volumes that must be preprocessed, mobility through network coverage holes, etc..

An Opportunity for Managed Service Providers

Thanks to the FlexCPE and Nuvla solutions, applications can be rapidly deployed to a large customer base. Managed orchestration of on-site deployment can be performed with ease. The service provider can monetize its unique positioning allowing to industrialize on-site edge computing orchestration, and doing so will protect its position from commoditization, reduce churn, and foster its position in the SaaS value chain.

VALUE FOR THE SERVICE PROVIDER

- Deployment of extended monitoring apps; enable SLAs
- Increase value chain to SaaS applications
- Monetize customer base
- Optimize carbon footprint
- Churn Reduction

VALUE FOR THE APP VENDOR

- Hassle free customer acquisition, contract & billing
- Automated deployments & updates
- Security, Privacy & Confidentiality
- Low latency, high bandwidth
- Cloud cost reduction

Get the most of your CPE

Security and Trust

Thanks to the stringent governance of the deployed applications and the control mechanisms, service providers have full control over the qualification and verification of the distributed edge applications. Updates can be rolled out easily in seconds. The applications' behavior can be monitored, and packages can be checked for valid signatures before deploying. This control of the application level also enables additional services for monitoring and network visibility, which can further increase threat detection and network security management. The service provider's customer can trust them to master both the networking and the application qualification and monitoring.

The well-structured and integrated combination of OneManage and Nuvla.io will allow for smooth integration into the management infrastructure of service providers.

Make it Easy to Build an Application Ecosystem

Building an application ecosystem that can compete with "application store" approaches of cloud providers has not been an easy endeavor for service providers so far. One reason is that the management of partners for applications implies long and costly negotiations of contracts with detailed terms and conditions, especially if the applications require to implement "pay as you go" subscription contracts. Another is that it is not easy to position the ownership of the responsibilities in the service providers existing organizational structure. With FlexCPE, you can leverage the capabilities of the Nuvla.io portal to delegate the complexities of contracts and terms of conditions, including the management of usage payments. An ideal way for service providers to monetize its assets without having to deal with the complexity to reshape its own organization, workflows and processes to the often completely different business models required by edge applications.

FlexCPE Technical Features
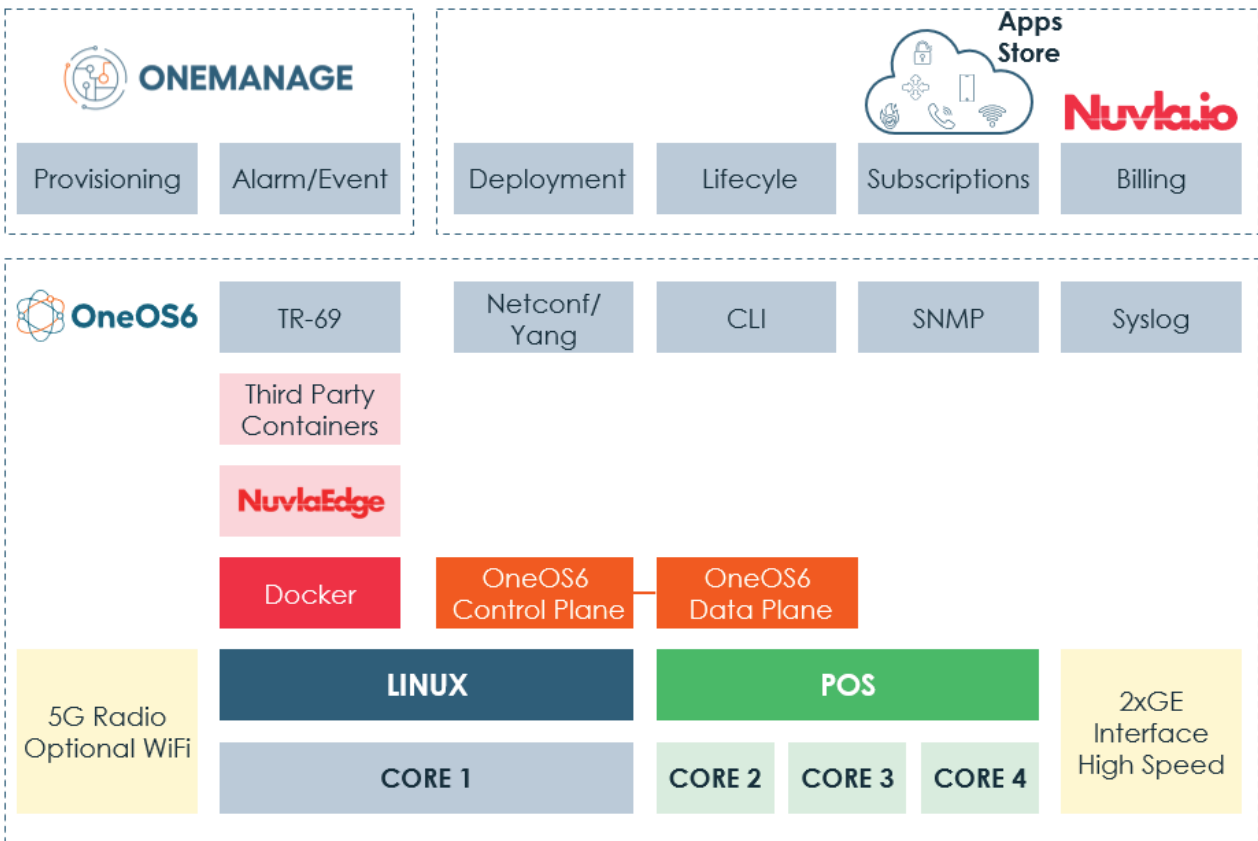
FlexCPE / NuvlaEdge / Nuvla.io - Functional Architecture Diagram

Technical Features

Application Encapsulation

- Strong isolation of CPE resources and application resources
- CPE data traffic handled by POS cores
- CPU core distribution is configurable
- Support ARM64 docker containers on Linux cores (shared with CPE control plane)
- Process isolation via Linux cgroups
- Application RAM usage, CPU usage and use of local storage can be constrained
- Security policies

Networking

- Applications can be bound to specific virtual routing function (VRF) to isolate their traffic (**)

Security

- Privileges of docker containers are controlled
- Only applications that are qualified and validated via securely authenticated orchestrator can be instantiated
- Enable only signed applications
- Extensive logging and monitoring mechanisms

Network and Application Management

- Application and system status via Nuvla.edge and Nuvla.io (*)
- TR-69, SNMP, Netconf / Yang
- Device configuration with powerful OneOS6 CLI
- OneOS6, FlexCPE and Nuvla software packages can all be remotely updated

Application Catalogue

- Possibility to delegate management of the application catalogue, T's and C's and payment collection to Nuvla.IO (*)

Supported CPE types

- FlexCPE is available on a large range of Ekinops OneAccess quadcore ARM based CPE: ONE621, ONE641, ONE422, ONE-5G, ONE2560, ONE2561 as well as on Ekinops uCPE solutions.
- NuvlaEdge can also be run on any Linux server allowing to build homogeneous edge computing solutions across Ekinops FlexCPE, uCPE and IT infrastructure

*   Subject to a license
** Contact product management for details

About EKINOPS
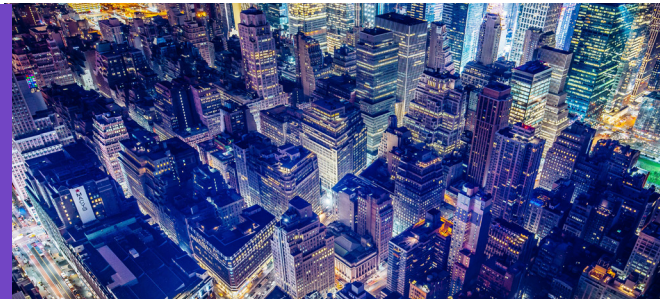
Ekinops is a leading provider of open and fully interoperable Layer 1, 2 and 3 solutions to service providers around the world. Our programmable and highly scalable solutions enable the fast, flexible and cost-effective deployment of new services for both high-speed, high-capacity optical transport networks and virtualization-enabled managed enterprise services

Our product portfolio consists of three highly complementary product and service sets: Ekinops360, OneAccess and Compose.

- Ekinops360 provides optical transport solutions for metro, regional and long-distance networks with WDM for high-capacity point-to-point, ring, and optical mesh architectures, and OTN for improved bandwidth utilization and efficient multi-service aggregation.

- OneAccess offers a wide choice of physical and virtualized deployment options for Layer 2 and Layer 3 access network functions.

- Compose supports service providers in making their networks software-defined with a variety of software management tools and services, including the scalable SD-WAN Xpress and Nuvla Edge-to-Cloud solutions.

As service providers embrace SDN and NFV deployment models, Ekinops enables future-proofed deployment today, enabling operators to seamlessly migrate to an open, virtualized delivery model at a time of their choosing.

A global organization, Ekinops (EKI) - a public company traded on the Euronext Paris exchange operates on four continents.

EKINOPS 360 Dynamic Optical Transport   **COMPOSE**   **ONEACCESS**