OVP

Open Virtualization Platform

OneAccess' OVP (Open Virtualization Platform) creates a virtualized compute environment to run multiple Virtualized Network Functions (VNFs) at the customer premises. This is commonly known as a universal Customer Premises Equipment or uCPE. Based on standard protocols and open data models, the programmable OVP framework lays the foundation for hosting, chaining and managing both OneAccess and third-party VNFs.

OVP is available as a turnkey solution including both hardware and software components. At the heart of the system is the Local Infrastructure Manager (LIM), a middleware that provides the Hypervisor, Open Virtual Switch (OVS), micro-services and the Management interfaces.

Features & Benefits

OVP creates an environment that takes care of virtualization, service chaining, network connectivity and unified management.

Open, optimized and highly portable solution for multi-vendor VNF management.

Features	Benefits
Open Platform OVP is a 100% open platform using off-the-shelf x86-based white-box CPE hardware.	Hardware vendor lock-in is avoided.
OVP can host both OneAccess and third party VNFs and supports service chaining of multiple VNFs with various network connectivity options.	CSPs can pick and choose best-of-breed network functions, execute seamless integration with any type of network to create unique and competitive service offerings.
Optimized Footprint OVP can be packaged with OneAccess' virtualized router (ONEv600) for resource efficiency..	Additional optimizations can be achieved in terms of use of local computing resources, freeing up processing capacity for other VNFs. In addition CSPs get the rich functionality of a fully-fledged enterprise router.
Flexibility and Scalability OVP programmability is assured via NETCONF and its corresponding YANG models together with more traditional management or reporting interfaces like CLI, SNMP and a WebGUI.	Supporting both new and legacy management protocols, OVP is the ideal platform to implement fully automated networks while maintaining well known management interfaces such as Industry Standard CLI and SNMP
Fast Network Virtualization OneAccess provides pre-integrated OVP platforms (middleware + customized hardware).	Pre-packaged options accelerate the deployment of new VNF-based services.

ABOUT us

OneAccess, an Ekinops company, is a leading provider of physical and virtual network functions enabling the delivery of Cloud and other managed services to SMB and enterprise customers around the world.

Our programmable and highly scalable solutions enable the fast, flexible and cost-effective deployment of new services for virtualization-enabled managed enterprise services. OneAccess offers a wide choice of physical and virtualized deployment options for layer 2 and layer 3 network functions.

As service providers embrace SDN and NFV deployment models, OneAccess' solutions enable them to deploy traditionally managed services today in the knowledge that they can seamlessly migrate to an open virtualized delivery model at a time of their choosing whilst avoiding vendor lock-in.

A global organization, with operations in 4 continents; Ekinops (EKI) - a public company traded on the Euronext Paris exchange - is headquartered in Lannion, France, and Ekinops Corp., a wholly-owned subsidiary, is incorporated in the USA. OneAccess is a wholly-owned subsidiary of Ekinops S.A.

Use Cases

Appliance Consolidation

Consolidation of multiple network appliances on one single hardware platform, reducing the cost of installation and maintenance of multiple boxes at the customer premises.

Flexible Service Enablement

Service enablement of telecom services at the customer site and, once installed, creation and provisioning of new services on-demand, without the need for truck rolls and on-site intervention.

SD-WAN

Operate virtualized SD-WAN Edge on a virtualization platform, avoiding hardware lock-in from the SD-WAN supplier and being able to create a service chain containing other VNFs like firewall or local IT services.
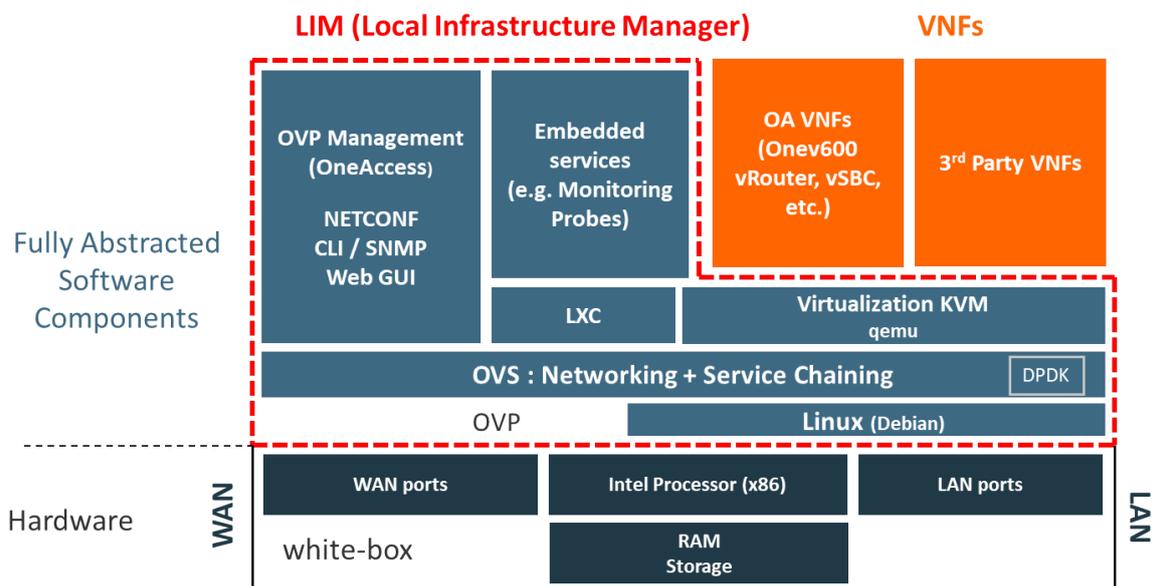
Unified Platform for Network Functions and Local IT Applications

Combine Virtualized Network Functions and PAAS (Platform As A Service) to extend the scope of the services offered to customers and increase the ARPU. This is especially interesting to address vertical market segments like retail or oil/gas.

OVP Positioning

- 100% open hosting platform for muti-vendor VNFs avoids vendor lock-in
- All functionality modeled in YANG for seamless integration with service orchestrators using NETCONF/YANG for service automation
- Includes CLI support for gradual migration of management systems and operational support
- Powerful Graphical User Interface (OVP Design Studio) enables to create and debug complex Service Chains in no time
- Pre-integrated platform (software + hardware) allows for rapid VNF service delivery
- Optional integrated enterprise-grade vRouter optimizes the use of local compute resources and minimizes resource footprint

LIM (Local Infrastructure Manager) **VNFs**

Fully Abstracted Software Components

OVP Management (OneAccess) NETCONF CLI / SNMP Web GUI	Embedded services (e.g. Monitoring Probes)	OA VNFs (Onev600 vRouter, vSBC, etc.)	3rd Party VNFs

	LXC	Virtualization KVM qemu

OVS : Networking + Service Chaining | DPDK

OVP | **Linux** (Debian)

Hardware

WAN | LAN

WAN ports	Intel Processor (x86)	LAN ports

white-box | RAM Storage

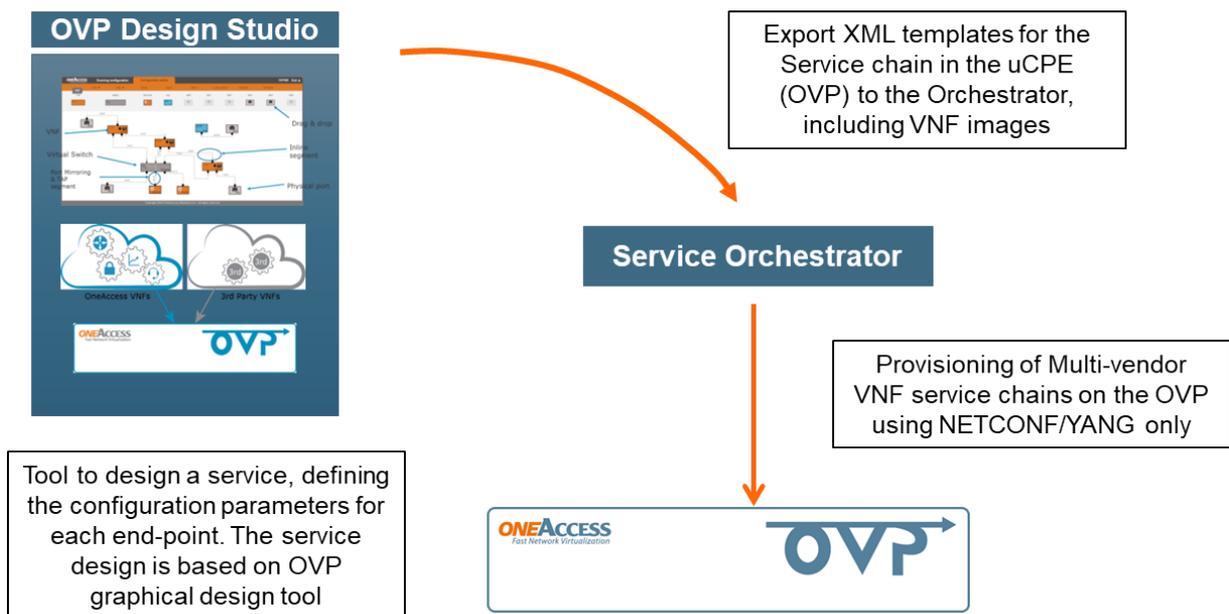**ONEACCESS**
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OVP Design Studio

Although not required for operation in an orchestrated network, OVP provides a powerful front-end for the configuration and troubleshooting of VNF service chains. Using a Web GUI interface, this part of the OVP manager enables the setup of a complete service chain using drag&drop for physical interfaces, VNFs and test probes. Once tested and debugged, the topology of the tested service chain as well as the associated VNFs can be exported using NETCONF to be used in the overall service description.
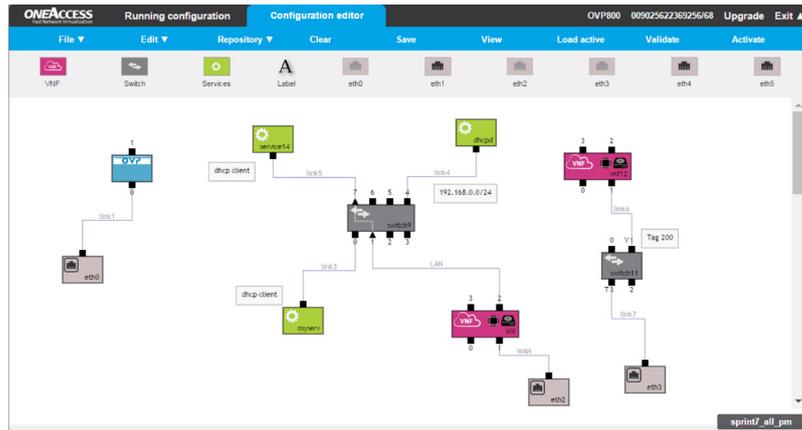
With the help of OVP design studio it is possible to accelerate the design of new service chains on the OVP. This tool generates XML descriptions of a new service chain in the OVP and these service descriptors can be used as a service template in any service orchestrator using NETCONF/YANG for the creation of automated services.

OVP Design Studio

Export XML templates for the Service chain in the uCPE (OVP) to the Orchestrator, including VNF images

Service Orchestrator

Tool to design a service, defining the configuration parameters for each end-point. The service design is based on OVP graphical design tool

Provisioning of Multi-vendor VNF service chains on the OVP using NETCONF/YANG only

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LIM Functionality

- OVP is based on open-source software
  - Linux-based
  - Remotely upgradeable (full upgrades or incremental via patches)

- Management based on NETCONF and CLI
  - The full functionality of the OVP has been modeled in YANG and is configurable with NETCONF. The OVP also supports configuration via CLI

- Built-in services: DHCP server, switching, network probes to monitor connectivity

- Network connectivity management
  - OVS (Open Virtual Switch), integrated and managed, overlay tunnels (GRE or VXLAN), VLAN tagging, Port Mirroring
  - Virtual switches are used to connect all elements of the service graph including OVP management, physical ports, embedded services (DHCP, etc.), VNF interfaces, management interfaces and test points
  - When allowed by the configuration and/or hardware, the use of OVS can be substituted by any of: DirectIO between a VNF and a physical port, PCI passthrough, SR-IOV (VM-to-VM) or use of a hardware switch

- Local virtualization capabilities
  - Virtualization with KVM/Qemu via libvirt

- VNF management
  - VNF Images (download, settings)
  - VNF instances lifecycle management (configure/start/stop/pause/resume)
  - VNF states are saved and restored after boot

- Service chaining of VNFs
  - Create(Model)/Instantiate/Save/Pause/Resume/Stop VNF service chains via an intuitive GUI

- Supports OneAccess and third-party VNFs (*)
  - OneAccess' OneOS6 virtual Router

- VNF monitoring
  - CPU load, network traffic monitoring
  - Console access for any VNF through the GUI

(*) *List available upon request*

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