


altran

Universal CPE Framework

High Performance Platform for Universal
CPE & Network Edge Virtualization

Arcent is now Altran

The bottom half of the image features a dark blue background with a network of glowing white nodes and lines. This network is overlaid on a satellite view of Earth, showing the curvature of the planet and the atmosphere. The overall aesthetic is futuristic and technological.

Introduction

Altran offers a comprehensive & flexible Universal CPE Framework that contains uCPE-OS, Central Orchestrator & an Enterprise Self Care Portal.

Altran uCPE-OS can run on any white-box server and can support multi-VIM environments (OpenStack, Kubernetes, etc.). It provides open interfaces that can be integrated with a wide variety of third-party VNF. Altran uCPE-OS is a futuristic platform which supports Virtual Machine based VNFs as well as Container based CNFs. Its unique plugin-based architecture allows it to be flexible enough to ensure quick integration of any upcoming VNF, CNF, VIM or Orchestrator. ZTP (Zero Touch Provisioning) allows the user to provision the uCPE Services without any manual intervention through an Enterprise Self-Care Portal.

Altran Orchestrator is a generic framework for managing the orchestration and lifecycle of any VNF. It supports multiple VIM interfaces including multiple flavors of OpenStack, VMWare vCloud Director and Kubernetes.

Enterprise Self Care Portal provides intuitive and user-friendly interfaces to service providers and the customers to select and configure the services for the Enterprise CPE.



The Universal CPE- The Next Logical Evolution After Virtualized CPE

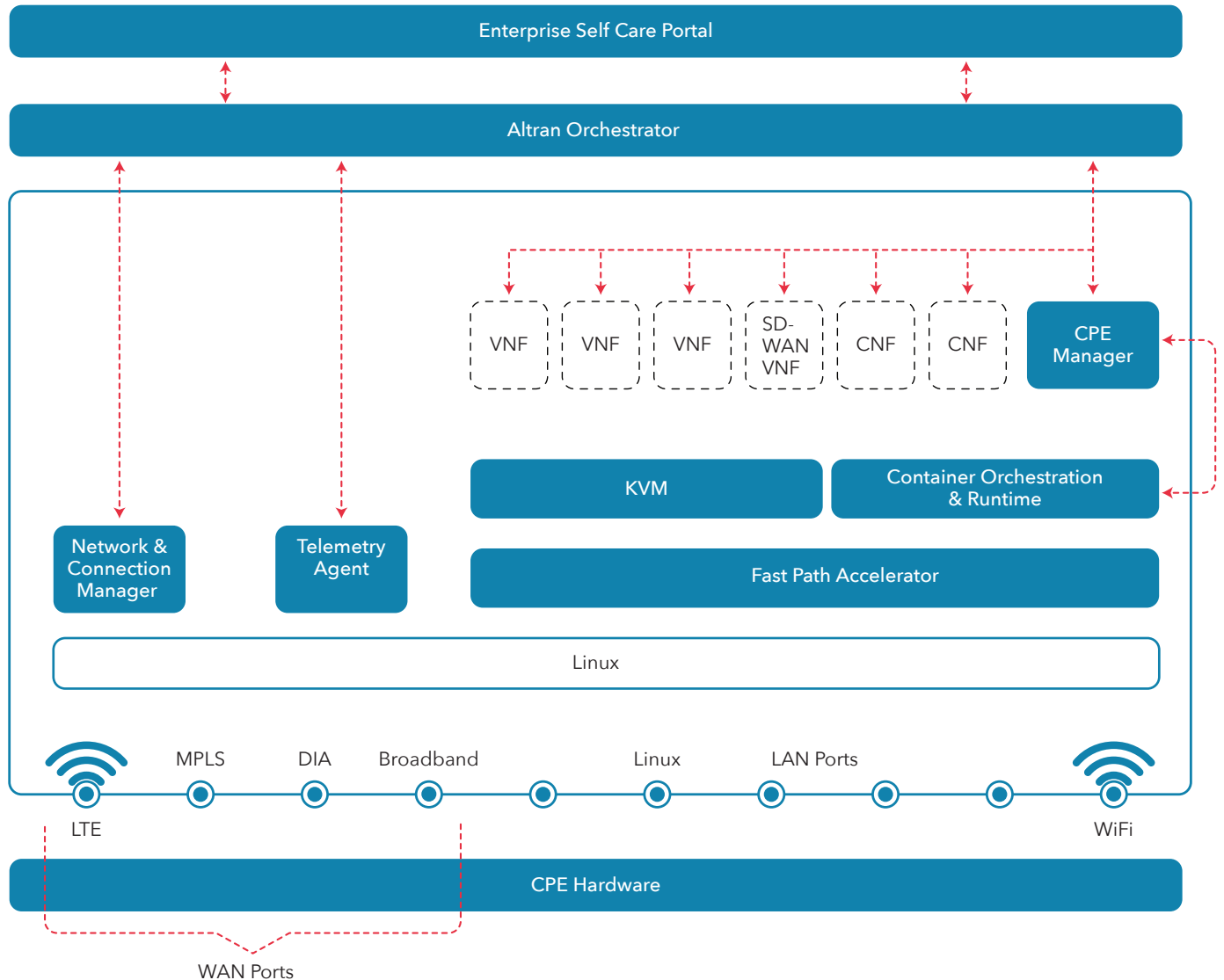
The traditional Customer Premise Equipment (CPE) contains specialized but inflexible custom hardware and it requires costly professional onsite configuration. Although this type of CPE provides the required solution but changing or adding services usually require new equipment installation or modification, which reduces profits and customer satisfaction. As communication providers implement and expand software-defined communication technologies, the virtualization of services for customers can now replace technician site visits with zero touch provisioning of these devices. Virtualization of CPE services provide flexibility to the service providers to rapidly add new virtualized functions without any manual intervention, resulting in cost savings for both the customer and themselves.

The Universal CPE is the next logical evolutions after Virtualized CPE (vCPE). Universal CPE (uCPE) is a general-purpose platform for hosting services, including SD-WAN. uCPE enables rapid development and deployment of services, as well as open multi-vendor ecosystem. An open multi-vendor ecosystem ensures flexibility and agility in choosing the VNFs, Orchestrator, SDN Controller and Hardware Platform. Apart from running the SD-WAN services, a uCPE can also be used as an Edge device to host the latency sensitive applications for enhanced customer satisfaction.

The uCPE combines the inherent advantages of virtualization along with the powerful networking capabilities and customer specified third-party Virtual Network Function (VNF) to deliver a customized high-performance and cost-effective solution.

The Altran Solution

Figure Name:



Altran provides the complete end-to-end uCPE Framework for any white-box CPE Device. Our solution leverages the power of Standard Open Source Components along with the Altran in-house frameworks to deliver the complete solution. Altran uCPE Framework includes the following components that are developed in-house:

- uCPE OS
 - > CPE Manager Stack
 - > Network & Connection Manager
 - > Telemetry Agent
- Altran Orchestrator
- Enterprise Self-Care Portal

Altran uCPE-OS has multi-access capabilities with built-in drivers for WiFi & LTE. It provides the management platform with automation and Zero Touch Provisioning (ZTP). Altran uCPE Manager is inspired by ETSI MANO Specifications and can be integrated with a wide variety of VNFs as well as any third-party Orchestrator and SDN Controller (for Service Function Chaining).

The Altran Solution

The differentiators

Third-Party VNF Support:

- Altran solution allows integration with any third party VNF
- This will enable customers to use cost efficient VNFs as per their requirements

Multi VIM Support

- Altran uCPE Solution works with OpenStack, KVM & Kubernetes
- Our Plugin based architecture allows quick integration with any other VIM apart from the ones mentioned above

Flexibility of Orchestrator:

- Altran uCPE OS provide ETSI Complaint API for communicating with Central Orchestrator. That allows us to integrate with any third-party Orchestrator like ONAP or HP NFV Director
- Customer is free to use Altran Orchestrator or any other third-party orchestrator
- Our unique plugin-based architecture allows our uCPE OS to be quickly integrated with any third-party orchestrator

Flexibility of SDN Controller

- For Service Function Chaining, we have plugins for OpenStack Neutron SFC Driver & ONOS
- New Plugins can be quickly written for any other SDN Controller

Standard Opensource Components

- Altran solutions use standard opensource components with rich community support (like Linux, OVS, KVM, OpenStack, Kubernetes, etc.)

Source Code Package

- Altran can also provide the source code as part of our delivery. That gives independence to our customers to have complete control over our solution. They are free to modify it as per their requirements.

Support for Containers

- Altran provides deployment of containerized VNFs
- Containers are less resource intensive compared to the Virtual Machine based VNFs. That helps in further savings in terms of CPU & Memory requirements.

Multi-Access Interface

- MPLS, Broadband & LTE for WAN Interface
- Ethernet, Optical Fiber Connectivity for LAN Interface

Low Resource Footprint

- Altran uCPE-OS is resource-optimized to ensure minimal Compute & Memory usage.
- This ensures that maximum resources are available for the running VNFs

Find out more about what our software product development can do for your company.

Get in touch to set up a call or meeting with an Altran expert today: marketing@Altran.com

You can work with a company that develops software for today. Or you can work with one that develops software for tomorrow.

About Altran

Altran ranks as the undisputed global leader in Engineering and R&D services (ER&D), following its acquisition of Aricent. The company offers clients an unmatched value proposition to address their transformation and innovation needs. Altran works alongside its clients, from initial concept through industrialization, to invent the products and services of tomorrow. For over 30 years, the company has provided expertise in aerospace, automotive, defense, energy, finance, life sciences, railway and telecommunications. The Aricent acquisition extends this leadership to semiconductors, digital experience and design innovation. Combined, Altran and Aricent generated revenues of €2.9 billion in 2018, with some 47,000 employees in more than 30 countries.

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