

## Solution Brief

Intel® Network Builders  
Intel® Atom™ Processor C2000  
Intel® Xeon® Processor D-1500

# Next Generation Platforms for vE-CPE based on Intel SoC Families

### Executive Summary

Just as white-box switches have transcended the traditional top-of-rack business model for customers demanding greater service flexibility and easier provisioning, enterprise customers are demanding more flexible, open, and cloud-based WAN technologies.

Enterprise services offered by Communication Service Providers (CSP) have traditionally required the installation of multiple hardware appliances at the customer site in order to deliver mainstream functions such as routing, firewall and VPN.

The customer premise equipment or CPE used to accomplish this is typically deployed on proprietary or specialized WAN technology with dedicated appliances used to implement different network functions.

In addition, WAN traffic generally flows over expensive, private lines using MPLS technology and the CSP provides the management systems that are required to operate and maintain the network.

This approach has the benefits of guaranteeing enterprise customers with reliable network services and helps to ensure that service level agreements can be met.

On the flip side, it offers little flexibility for businesses who require more capacity or additional services as it lacks the agility needed to quickly respond to new business opportunities. Time to revenue ultimately suffers as CSPs struggle to provision new services, which in turn slows the innovation cycle and delays growth.



## Overview

Adaptability and flexibility challenges can now be overcome thanks to Network Function Virtualization (NFV) elasticity which allows network services to be moved around different locations in the network, both at the service provider edge and on the customer premises.

Specialized appliances are no longer required, as network functions like routers and firewalls become virtual network functions (VNFs) and can run on open networking platforms based on Intel architecture in the cloud as well as at the branch office.

While physical service functions require a truck roll to deploy a new service, NFV provides the ability to bring virtualized service network functions to managed network service customers much faster.

Although standard IT servers may be considered for deployment of vE-CPE on the customer premises, white box appliances offer a reduced CAPEX alternative for deployment in volume. Advantech's white-box vCPE offering embraces CSP disaggregation strategies through NFV and enables a more cost effective separation of hardware and software in the provisioning of zero-touch appliances installed at customer branch offices.

Advantech's open white-box vE-CPE approach, using standard Intel processors in feature-flexible appliances, provides the range of bare-metal server platforms needed by CSPs and system integrators to transform conventional deployment models in the enterprise WAN. Advantech's initial white box vCPE range consists of 3



Figure 1 Advantech FWA-1320 – Special Edition



Figure 2 Advantech FWA-2320

platforms that cover a broad set of configurations and price points:

**The FWA-1320**, a table top box and the 1U rack mountable **FWA-2320** are both based on the Intel Atom Processor C2000 system-on-chip formerly codenamed 'Rangeley'. Intel QuickAssist and DPDK support provide the technology needed for up to 10x accelerated packet handling as well as encryption and compression offload.

Ranging from 2 to 8 Atom cores the two platforms offer 500 to 1500Mbps of IPsec encrypted traffic throughput, depending on their configuration and target cost-sensitive entry level-to mid-range vE-CPE deployment.

**The FWA-3260** brings server-class performance into a cost and feature optimized 1U platform. The outstanding price/performance ratio and scalability of the Intel Xeon processor D-1500 product family,

formerly codenamed 'Broadwell-DE', enables higher performance with up to 16 cores and greater throughput with up to eight gigabit Ethernet LAN ports and 10GbE connectivity for large scale branch and head offices. Watch out for the FWA-3261 variant soon to be announced.

For NFV and vE-CPE to work, an ecosystem of vendors is required to virtualize network functions like routers, firewalls, load balancers, WAN optimization controllers and more.

Operating system vendors and orchestration experts need to come together to provide the tested and interoperable building blocks needed for technologies like vE-CPE and SD-WAN to enable the new IP infrastructure.

That is why Advantech is working closely with the key vE-CPE vendors, with several hardware and software bundles now available for evaluation test and



Figure 3 Advantech FWA-3260 based on Intel Xeon processor D-1500 product family

the gratification of numerous CSP trials underway in live networks.

**ADVANTECH**

Intel®  
Network Builders  
PARTNER  


# Your New vE-CPE White Box just Arrived



## FWA-1320/2320

Tabletop or Rackmount Appliance

Intel® Atom™ Processor C2000

Entry-level platform for cost-sensitive deployments



## FWA-3260/3261

Optimum Price/Performance

Up to 16 Intel® Xeon® Processor D-1500 Cores

Fully configurable to fit any enterprise deployment

Test it  
Online  
Now



Advantech Networks & Communications Group

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**ADVANTECH**

- Best-in-breed communication platforms using Intel® SoC technology
- Value added Advantech features lower TCO

- Interoperability certified with key NFV ecosystem partners
- Pre-integrated vE-CPE demonstrator minimizes integration risks

## Whitebox Platforms Strong Ecosystem ADVANTECH vE-CPE PROGRAM

- Tailor-made branding, packaging & logistics
- Greybox capability via Customized COTS framework
- Full scalability from Intel® Atom™ to Intel® Xeon®

- Secure remote access to your own vE-CPE platform, running functions such as vRouter, vFW, vVPN and SD-WAN optimization at your finger-tips

Agile Solution

Remote Evaluation

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