

## WiTCOM deploys open multi-vendor solution to power smart city initiative

**WiTCOM**   
Digital. Vernetzt.

### At a glance:

- WiTCOM
- Location: Wiesbaden, Germany
- Industry: Telecommunications Provider

### Challenge:

- The need for high performance and end to end security for their virtual routers

### Solution:

- Virtual IPsec vRouter

### Results:

- Operational gain thanks to Zero-Touch Provisioning of endpoint devices
- Cost-effective, high throughput IPsec aggregate or running on white-box hardware

WiTCOM provides business customers, authorities, and ITC service providers in Wiesbaden with professional telecommunication services and secure data center services. Now, WiTCOM is deploying an open uCPE platform as an edge cloud to host smart city services, including IoT, traffic control, surveillance, and wholesale services.

### Challenge

#### Need for a secure open platform powering edge cloud for IoT, video and next-gen services

With network functions virtualization (NFV) and universal CPE (uCPE), smart city operators like WiTCOM can rapidly and efficiently deploy next-generation services. And once the uCPE servers and software are deployed, the operator can use it as a platform for innovation.

“We took an innovative approach for an open multi-vendor solution to power our smart city initiative working with 6WIND, ADVA, Advantech, Dell and dacosy,” **said Volker Bodenbach, head of technology and operations, WiTCOM.** “Together we designed a secure open platform that powers edge cloud for IoT, video and next-generation services across our IPv6 network that can further be deployed worldwide across many verticals.”

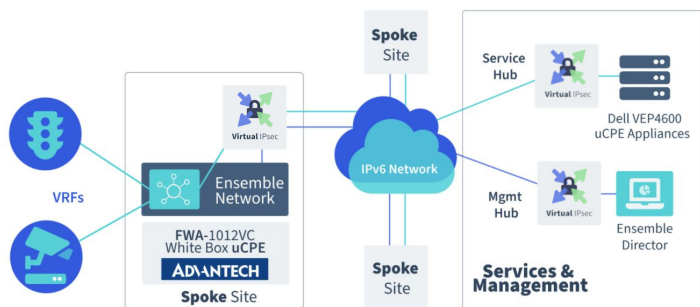
## Requirements

WiTCOM needed to add new services dynamically, without changing the deployed hardware, drastically increasing the rate of innovation. They needed a solution that would provide high performance and end to end security, which was an essential element for such a solution.

WiTCOM commissioned dacoso, an IT service provider in continental Europe, to assemble a solution using best-of-breed suppliers to power this innovative deployment. dacoso teamed up with 6WIND, ADVA, Advantech and Dell technologies. Working together, the suppliers teamed up to meet WiTCOM's stringent requirements for performance, cost, ease of deployment and security.

## Solution

**WiTCOM chose the 6WIND Virtual IPsec vRouter** The solution is deployed on a central hub site as well as remote spoke sites, as shown in the diagram below.



Security is an essential element of the solution, and is provided by the 6WIND Virtual IPsec vRouter. The vRouter is deployed in virtual machines (VMs) at each of the spokes, and at the hub as an aggregator.

The spoke sites are located in outdoor cabinets featuring the widely adopted FWA-1012VC white box uCPE from Advantech. This optimized and versatile appliance integrates the Intel Atom®

C3758 processor (8 cores), and 2 x 1GbE SFP and 6 x 1GbE RJ45 interfaces, providing sufficient compute headroom and flexible connectivity to meet edge site requirements.

Each spoke site is connected to the hub through a secure tunnel by 6WIND's Virtual IPsec vRouter and hosted by ADVA's Ensemble Connector software, which also powers operational features like zero-touch provisioning and dynamic addition of new virtual network functions.

The hub site aggregates and terminates the secure connections through 6WIND's Virtual IPsec vRouter deployed as a VPN concentrator with 10Gbit/s throughput. It also connects to the NFV management and orchestration (MANO) of the Ensemble software suite. The hub site network services are hosted on high performance Dell EMC VEP 4600 uCPE appliances with Intel® Xeon-D® 2100 processors (16 cores), 64GB RAM, 960GB SSD and dual 10GbE NICs.

## Next Steps

The team implemented the first project successfully for WiTCOM. Lessons learned include the need for end-to-end IPv6 for IoT applications and MANO, and the need for full automation. WiTCOM can now apply these lessons and move to a standard service offering

The initial deployment includes IoT infrastructure for the transportation and mobility industry. dacoso intends to use this as a template for deployments across the Germany, Austria, and Switzerland region.