6WIND
Cloud Networking for AI

Carrier-Grade Networking for Virtual Operators and Connectivity Platforms

6WIND turns the network layer into software, so MVNOs, MVNEs, MVNAs and connectivity platform providers can deliver programmable, on-demand services on infrastructure they control.

Challenges

- *Delivering services on demand*
- *The internet edge is the exposed surface*
- *IPv4 exhaustion*
- *Mutli-site, multi-jurisdiction footprint*

The Solution

- *One stack, one operating model*
- *Engineered for throughput per core*
- *Built for multi-tenancy*
- *API-first*

Use Cases

- *Partner and host interconnection secured via IPsec*
- *Secure and isolate back-office systems — BSS, OSS, charging, care*
- *Protection from untrusted networks*
- *Infrastructure network functions*
- *Secured connection to hyperscalers and any cloud*

In April 2026 the GSMA published MVNOs as Platforms: The Future of Virtual Operators, arguing that the model is moving away from price-based resale and toward “programmable connectivity platforms built on partnerships, APIs and ecosystems.” Its conclusion is blunt: “simply being a virtual operator is no longer enough. The future lies in agility and control.”

That shift runs across the sector — virtual operators, the enablers and aggregators behind them, and the connectivity platform providers embedding mobile services into automotive, IoT and enterprise ecosystems. All of them make the same promise: services provisioned on demand, programmable through APIs, consistent in every market served, and delivered with a digital experience matching the platforms around them.

Meeting that promise is a network problem before it is a product problem. On-demand provisioning, per-customer policy, secure interconnection with partners, hosts and clouds, and isolation of back-office systems are all functions of the routing and security layer and can only move as fast as that layer allows.

This is why the network layer itself has become software. Virtualized and containerized network functions let a platform run routing, firewalling, NAT/CGNAT and IPsec as software it controls — instantiated per site, country or cloud in minutes, driven by API, scaled to the workload rather than to a procurement cycle. That is where the flexibility and the cost reduction come from, with one caveat: an unoptimized stack consumes the savings it was meant to create, so throughput per core decides whether the economics work.

The Challenges

- **Delivering services on demand**. Self-service provisioning, per-customer policy and an API-consumable experience are only achievable if the routing, security and interconnect layer is programmable and reconfigurable in minutes. Where it is not, the roadmap belongs to whoever operates it.
- **The internet edge is the exposed surface**. Breaking traffic out to the internet means owning unauthorized-access prevention, subscriber and device protection, and audit-grade logging at scale — enforced consistently in every market served.
- **IPv4 exhaustion**. Subscriber, device and SIM growth outruns address availability, making CGNAT mandatory — acute in IoT and automotive, where one platform can carry tens of millions of connections.
- **Multi-site, multi-jurisdiction footprint**. Platforms aggregate several hosts across several countries and clouds. Every interconnect, site-to-site link and partner peering need encryption and routing, and permanent-roaming rules force a local presence in-country, multiplying the instances to run.

The 6WIND Solution

6WIND delivers that layer as one software stack. 6WIND Virtual Service Router provides routing, firewalling, NAT/CGNAT and IPsec as virtualized or containerized network functions on standard servers — the same image on bare metal, in a VM, in a container, on your existing Kubernetes or OpenShift cluster, on a telco cloud or at any hyperscaler.

- **One stack, one operating model**. Deploy as vBR/vPE, vFW, vSecGW or vCGNAT — same image, tooling and skill set, wherever it runs.
- **Engineered for throughput per core**. Multiple hundreds of Gbps from a single stack, so capacity scales with the cores you allocate and cost per gigabit stays predictable.
- **Built for multi-tenancy**. One platform serves many customers or brands, with isolated routing and policy per tenant.
- **API-first**. YANG/NETCONF, telemetry and OSS/BSS integration, so provisioning a tenant or a site is a workflow, not a project.

Primary Use Cases

6WIND VNF	Use Case	Customer Problem	Joint Solution Delivers
vSecGW	Partner and host interconnection secured via IPsec	Every host-MNO interconnect, PoP-to-PoP link and GRX/IPX peering has to be encrypted, and appliance VPN gateways cap out on tunnel scale.	High-scale IPsec at carrier-grade throughput, with the same gateway image in every PoP and cloud region.
vFW + vBR	Secure and isolate back-office systems — BSS, OSS, charging, care	Back-office systems share the same IP fabric as customer traffic. That traffic has to be isolated from the platform's own systems, with the separation enforced identically at every site.	Segmented routing and firewalling that keeps customer traffic and internal systems apart, with one policy model everywhere.
vFW	Protection from untrusted networks	The internet edge carries untrusted traffic: unauthorized-access attempts, abuse of customer connections, and regulatory logging obligations, all at line rate.	Firewalling that scales in software as volume grows, with logging built for audit.
vPE / vBR	Infrastructure network functions	Peering, transit, internet breakout and multi-host aggregation need real routing at scale, without a border router in every site.	Full routing stack (BGP, VRF, overlays) as software, deployed per PoP in minutes on commodity servers.
vSecGW + vCGNAT + vBR	Secured connection to hyperscalers and any cloud	Platform and support functions increasingly run in public cloud. Hyperscaler NAT gateways charge premium per-GB rates and each cloud needs its own instance.	Encrypted cloud on-ramp with consolidated CGNAT and routing, cutting egress and NAT-processing cost.

STRATEGIC BENEFITS

Price to Performance

Multiple hundreds of Gbps from one software stack on standard servers. Capacity scales with the cores you allocate.

Efficiency

High throughput at a low compute footprint means more capacity per server, less rack space and a lower cost per delivered gigabit.

Ubiquitous Deployment

One software image: bare metal, VM, container, Kubernetes, OpenShift, telco cloud or any hyperscaler. Same behavior everywhere.

No Vendor Lock-In

European-engineered software on the infrastructure you choose. No proprietary appliances, no vendor-dictated end-of-life.

Flexibility

Scale a function up, down or out per site. Add a function, a location or a cloud without adding a platform.

Cutting Edge

Cloud-native by design, container- and Kubernetes-ready, API-first, with a data plane under continuous development.

Proven in Production

6WIND runs in the networks of operators and platforms across this ecosystem. Anonymized profiles:

- **A US-based enabler and virtual operator** delivering global travel and IoT eSIM connectivity from its own cloud-based core across ten points of presence and 800+ network-access agreements.
- **A US hybrid operator** that runs a nationwide network alongside its virtual operations, at national subscriber scale.
- **The international wholesale and connectivity arm of a European incumbent** interconnecting more than 700 operators worldwide.
- **A Belgian operator** delivering wireless connectivity to enterprise and industrial customers.
- **A Swedish connectivity platform provider** embedding connectivity into vehicles and connected devices for manufacturers.

Learn more at 6wind.com or contact us at sales@6wind.com.