

NWPS AND IP INFUSION DELIVER CARRIER-GRADE ISP-INDEPENDENT CONNECTIVITY FOR SWISS CRITICAL HEALTHCARE

Swiss network engineering firm deploys OcNOS BGP Multihoming to eliminate single-ISP risk for critical hospital infrastructure.

1.27M+
HW Routes Handled

Dual-Stack
IPv4 + IPv6 BGP

~60%
Lower CapEx

10 Months
No Recorded Outages

Executive Brief

NWP Services GmbH (NWPS) is a Zürich-based network consulting, engineering and managed services company specializing in the design and operation of high-availability infrastructure. When a Swiss hospital – critical healthcare infrastructure – needed to eliminate its dependence on a single internet service provider, NWPS was engaged to design and deploy a greenfield, dual-stack internet architecture from the ground up.

NWPS selected IP Infusion's OcNOS SP IP-BASE, running on two UfiSpace S9600-72XC routers with OP2 external TCAM, to deliver a fully redundant dual-stack BGP multihoming solution. The result: a production-grade open networking architecture with the full global internet routing table handled in hardware, approximately 60% lower CapEx than a comparable proprietary offer, and no recurring software fees.

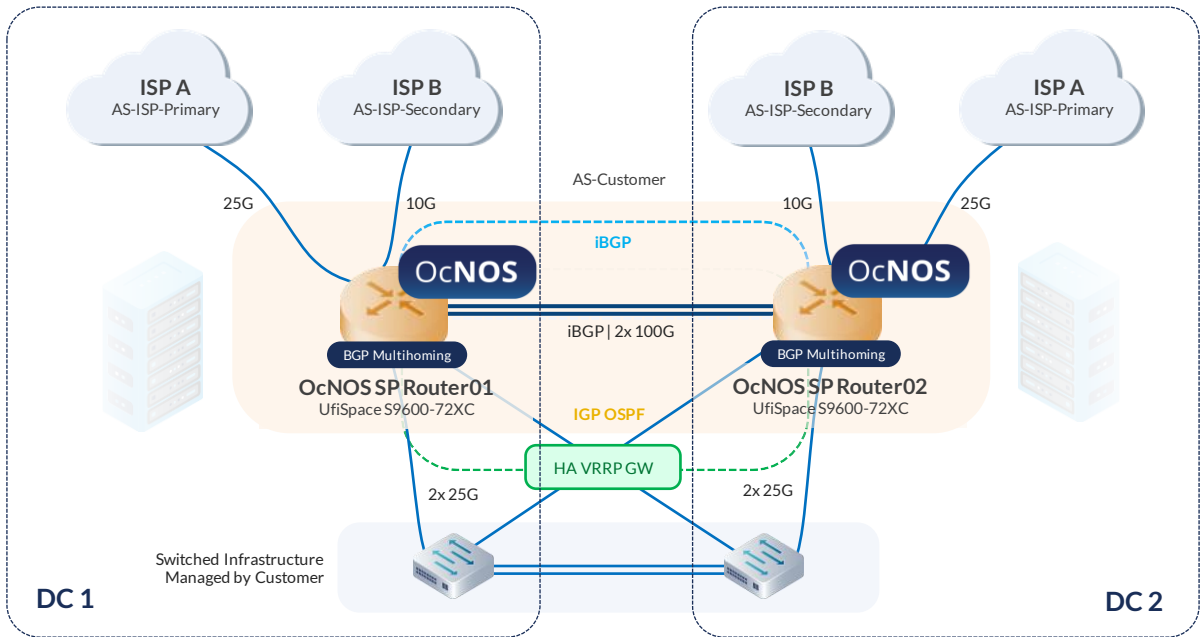
The Challenge

- **Single-ISP Dependency**
 - The hospital relied on one ISP – a critical risk for 24/7 healthcare connectivity requiring zero downtime.
- **Greenfield Complexity**
 - Build a production-ready, dual-stack network from scratch with zero downtime.
- **Scale Requirements**
 - Support full global BGP tables (IPv4 + IPv6) in hardware.
- **Legacy Economics**
 - A comparable traditional solution was quoted at over 80,000 CHF for two 1U devices – excluding 8,000–12,000 CHF per 4×100G port license bundle.
- **Swiss Critical Infrastructure**
 - Healthcare infrastructure demands the highest stability, security, and compliance standards.

The OcNOS Solution

OcNOS® SP-IPBASE Image running on UfiSpace S9600-72XC routers with OP2 External TCAM.

- **Dual-Stack BGP Multihoming**
 - Active eBGP to two independent ISPs via 25G and 10G links.
- **iBGP + VRRP High Availability**
 - iBGP and VRRP with LACP port-channels to HPE Aruba switching for seamless edge aggregation.
- **Hardware TCAM via OP2**
 - UfiSpace S9600-72XC with OP2 expansion provides the TCAM capacity needed for the full global routing table in silicon.
- **Open, Perpetual Licensing**
 - OcNOS SP IP Base Image – no subscription fees, no hidden add-ons. Competitive pricing even on external TCAM.



NWPS BGP Multihoming Reference Topology – UfiSpace S9600-72XC Running OcNOS SP

Why OcNOS

NWPS evaluated multiple options before selecting IP Infusion's OcNOS based on cost-benefit ratio, feature depth, and alignment with open networking principles.

- **Lower Acquisition Cost:** For the two-node deployment (support and maintenance included), the OcNOS / UfiSpace solution came in at ~60% lower CapEx than a comparable proprietary offer.
- **Predictable Economics:** Perpetual licensing with no recurring fees or costly add-ons.
- **ISP-Grade Feature Set:** OcNOS SP delivers OSPF, BGP (full table), BFD (fast failure detection), VRRP, LACP, sFlow and SNMP – a comprehensive feature set for production network operations.

Technical Spotlight

By utilizing the OP2 variant, the hospital secured a massive 20M route capacity in hardware. This ensures deterministic performance even as the global routing table grows or the hospital scales to multiple VRFs.

Current IPv4 Routes	~1,047,483
Current IPv6 Routes	~233,172
TCAM Utilization	< 10% (Future-proofed for 20M entries)

- **Hardware Performance:** UfiSpace S9600-72XC with OP2 TCAM holds the full internet routing table in hardware. Observed BGP reconvergence: ~30 seconds (dependent on upstream ISPs). VRRP failover: 1-3 seconds. The 16-core CPU installs the table in 10-30 seconds.
- **Usable Capacity, Not License-Gated Capacity:** A comparable proprietary proposal listed 12 × 100G + 24 × 1/10G ports – but only 4 × 100G were licensed at the quoted price. The S9600-72XC ships 8 × 100G + 64 × 25G ports, all usable from day one – roughly 3-4× more usable bandwidth.
- **Open Architecture:** Disaggregated design decouples software from hardware, removing single-vendor dependency.
- **After-Sales Support:** Responsive, expert-level production health monitoring after deployment.

Strategic Impact

In the ten months since the August 2025 go-live, the architecture has run with **no recorded outages**. The hospital now controls its own IP space and AS number, maintains live BGP sessions to two independent ISPs, and can evolve its hardware independently — the resilience and freedom that Swiss critical healthcare infrastructure demands. With approximately 60% lower CapEx than the proprietary alternative, no recurring software fees, and 3–4× more usable port capacity for future growth, NWPS secured the most cost-effective and scalable WAN path for years to come — free from forced upgrade cycles or vendor-imposed constraints.

"When you are building internet infrastructure for a hospital, failure is simply not an option. OcNOS gave us the carrier-grade feature set and hardware performance to deliver exactly that — at a price point that made the business case undeniable. This is what open networking looks like when it is done right." – Lino Moragon, Co-CEO, NWP Services GmbH (NWPS)

"From a technical standpoint, OcNOS checked every box – full BGP table in hardware, dual-stack from day one, and a feature set that holds up against the traditional vendors. What we did not expect was how smooth the after-sales experience would be." – Markus Wellauer, Co-CEO, NWP Services GmbH (NWPS)

Useful Links

[Feature Matrix](#)[Hardware Compatibility List](#)[OcNOS SP Solution Page](#)

Ready to Eliminate Vendor Lock-in?

Achieve production-grade resilience and ISP independence with OcNOS. Download our Solution Brief or schedule a technical consultation today: sales@ipinfusion.com

ABOUT IP INFUSION

[Learn More](#)

IP Infusion is a leading provider of open networking software and solutions for carriers, cloud service providers, and data centers. Our OcNOS® operating system enables network operators to disaggregate their networks to accelerate innovation, streamline operations, and reduce Total Cost of Ownership (TCO). IP Infusion network software platforms have a proven track record in carrier-grade open networking with over 500 customers and over 10,000 deployments. IP Infusion is headquartered in Santa Clara, Calif., and is a wholly owned and independently operated subsidiary of ACCESS CO., LTD. Additional information can be found at <http://www.ipinfusion.com>

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