SimgeNet Mühendislik

SINCE 2000 · TÜRKİYE

GENERAL CATALOGUE

Industrial Networking & Critical-Infrastructure Communication Solutions

Reliable technology for energy, railway, telecom, defense and the public sector.

IP/MPLS Router · Firewall · SMG-SW Switch · Teleprotection SMG50

Simgenet Mühendislik
Enerji San. ve Tic. Ltd. Şti.

General Catalogue
SMG-GK-EN · Rev. 8 · simgenet.net

01

ABOUT US

A Trusted Partner for Critical Infrastructure

Founded in 2000, Simgenet Mühendislik operates in industrial networking and critical-infrastructure communication systems. We offer a broad portfolio — IP/MPLS routers, managed switches, wireless communication systems and our **SMGOS** platform.

2000	500+	30+	100+
FOUNDED	PROJECTS DELIVERED	COUNTRIES SERVED	PRODUCTS

Our Mission

To deliver innovative, reliable and sustainable technology for industrial networks and critical-infrastructure communications, safeguarding our customers' business continuity.

Our Vision

To become Türkiye's most trusted and innovative network-infrastructure technology partner, recognized as a global brand.

We develop reliable, high-performance solutions for critical-infrastructure sectors such as **energy, transportation, defense and the public sector**. Our engineering approach — **developing our product software in house** — meets local needs end to end.

We are a manufacturer and a systems builder. The software of Simgenet-branded products — **SMGOS, SMG-SW, SVP, GNSS, NAC, storage and IP-PBX** — is purpose-built from the ground up by our own **manufacturing and R&D department**, not an adaptation of an off-the-shelf package. Transmission systems and field deployment are delivered by **separate specialist teams**. These departments operate independently of one another.

Our Quality Standards

ISO 9001	ISO 14001	CE	TSE
Quality Management	Environmental Management	European Conformity	Turkish Standards

Our Teams

At Simgenet the work is carried out by **separate, specialized departments**; every project is owned by the team responsible for it.

Manufacturing & R&D

Hardware and software development, validation testing and release management of Simgenet-branded products.

Transmission Systems

Design and commissioning of SDH/PDH, optical transport and power-line communication projects.

Field Deployment

On-site installation, cabling and fiber work, commissioning and maintenance services.

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WHY US

Why Simgenet?

Reliability, expertise and sustainable technology. We safeguard the continuity of your critical infrastructure with tested products and an expert engineering team.

20+ Years' Experience

Delivering reliable solutions in industrial networking and critical infrastructure since 2000.

Reliable Technology

Certified products and tested solutions ensure the continuity of your critical infrastructure.

Fast Technical Support

Pre-sales and after-sales technical support from our expert engineering team.

Our Own Software

The **SMGOS, SMG-SW, SVP, GNSS, NAC, storage and IP-PBX** software is **entirely original** and developed in house at Simgenet.

International Standards

ISO 9001, ISO 14001, CE and TSE certified products meet global quality standards.

Worldwide

Projects completed in more than 30 countries, serving customers on a global scale.

From software to hardware, end to end and single-source. We combine the Simgenet products whose software we develop ourselves with the world-leading solutions we supply, all under one engineering discipline.

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SERVICES

Our Solutions

From product supply to end-to-end system deployment and long-term support, we are with you at every stage of your critical-infrastructure projects — with a single engineering team.

Product Supply

- “Right product – right project – right time” principle
- Global supply network: Europe, Asia, America, Middle East
- Multi-vendor approach + technical suitability analysis

System Infrastructure

- Server & storage (rack/blade/tower, SAN/NAS)
- Virtualization: VMware, Proxmox, Hyper-V (HA/DR)
- LAN/WAN & VLAN design — turnkey

Network & Communication Infrastructure

- Fiber optics: OTDR testing, splicing, certification
- SMGOS IP/MPLS routing (BGP/OSPF/IS-IS/SR)
- PDH/SDH & TDM, SCADA/RTU, radio link

Voice, PBX & Paging Infrastructure

- Simgenet IP-based conference & paging system
- Web-based central management, full-duplex
- Unlimited SIP users/trunks; utilities, rail, airports

Application Support Services

- Virtualization & backup (Veeam, DR testing)
- Windows/Linux administration, cloud/hybrid migration
- 24/7 monitoring (SNMP/Syslog), proactive management

Design → Supply → Deploy → Support

one engineering team, end-to-end accountability — turnkey projects

04

PORTFOLIO

Our Products — Overview

A broad product family covering every communication layer of critical infrastructure — **Simgenet-branded** solutions and the supply of world-leading brands, together.

R **IP/MPLS Router**
SMG-series routers running SMGOS

F **Firewall**
Edge and data-center security platforms

T **Teleprotection Unit SMG50**
Protection signaling for power lines

Z **GNSS Time Server**
PTP grandmaster and NTP time distribution

V **Network Test Platform**
SVP — TSN, automotive T1 and RFC testing

S **Industrial Ethernet Switch**
Simgenet SMG-SW series — L2/L3 switch running the SMG-SW operating system

O **EDFA / Optical Amplifier**
DWDM EDFA optical amplifiers

M **SDH / PDH Multiplexer**
Multi-service transport multiplexers

K **FSK Modem**
Industrial FSK modem solutions

P **PLC Communication**
Power-line carrier communication

N **IP-PBX Systems**
Simgenet PBX Server and supplied solutions

A **Paging / PA System**
Simgenet Paging System — multi-zone paging and conferencing

D **Serial Device Server**
Simgenet Serial Device Server — RS232 over IP

C **Storage Server**
Simgenet Storage Server — object, file, block

I **Server & Infrastructure**
Enterprise server and data-center infra

N **Network Access Control (NAC)**
Simgenet NAC Server — core + site node

16 product categories, a single supplier. The following pages detail our featured products, our Simgenet-branded system groups and our network & communication portfolio.

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SIMGENET-BRANDED PRODUCTS

Our Featured Products

Our flagship products, whose software we develop in house — powered by the **SMGOS** platform and industrial-grade hardware. Product development is carried out by our own **manufacturing and R&D teams**.

Simgenet IP/MPLS Router

SMG411, SMG104, SMG818V5 and SMG1000 running SMGOS; industrial IP/MPLS platforms for energy, railway, telecom and ISP backbones.

Teleprotection Unit SMG50

Secure, low-latency end-to-end transfer of protection-relay commands across power transmission lines; 2–10 ms, 8 inputs / 8 outputs, up to 3 redundant links (p. 14).

Simgenet GNSS Server

A time server that provides one trusted time source for the whole network; it delivers PTP grandmaster and Stratum-1 NTP roles on a single platform.

The power of our own software. Because the software of Simgenet products is developed entirely in house, we can **add and customize features on request**, per project — a flexibility and long-term sustainability that foreign-vendor platforms cannot offer.

Industrial ruggedness. Our flagship products are designed for substations, field cabinets and harsh environments with **TS/EN 61000-4 Level 3 (heavy-industrial EMC)** and a wide operating-temperature range.

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SIMGENET-BRANDED PRODUCTS

IP/MPLS Router Family

Every role — from the access edge to the core — runs the **same SMGOS software image**. One skill set, one command line; the platform is chosen only by capacity and field requirements.

SMG411 — Edge Router

- 1U rackmount, fixed configuration
- Up to 10G uplink; branch and access edge
- 220 VAC 250 W · −20 °C to +60 °C

SMG104 — Aggregation Router

- 1U rackmount; 4× PCIe Gen3 ×8 modular slots
- Up to 100G uplink; 32×1G / 8×10G / 4×25G
- 430 × 550 × 44 mm · 220 VAC 250 W

SMG818V5 — Industrial IP/MPLS Router

- 2U rackmount; 8× PCIe Gen5 ×8 modular slots
- Intel Xeon 5418Y · up to 256 GB DDR5 ECC
- 1G–100G interfaces; up to 100G uplink

SMG1000 — Industrial Core Router

- 4U rackmount; modular PCIe Gen4 slot architecture
- Up to 100G uplink; 24×10G / 8×100G
- Xeon ICX 4309Y · 2× 220 VAC 250 W redundant

A shared protocol set. The whole family delivers OSPFv2/v3, IS-IS, BGP (iBGP/eBGP/RR), MPLS LDP, MPLS L3VPN (RFC 4364), L2VPN/EoMPLS, Segment Routing (SR-MPLS), VRF, VXLAN, BFD, ECMP and IEEE 1588v2 PTP timing on the same image.

Tailored to your project. Port and line-card configurations are confirmed per project; because SMGOS is developed in house, **features and specification items can be added on request**.

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SIMGENET-BRANDED PRODUCTS

SMG-SW Series — Top-Tier L3 Switch

An **industrial managed Layer 2/3 switch family** for power-utility automation, rail, industrial plants and operator access. Its own SMG-SW operating system, sharing management concepts with the router family; seamless rings, hardware-timestamped PTP, built-in OT security and a complete routing stack in one software. Port layout is defined per project by cards; the device grows later.

Router chassis, switch software

SMG-SW411 (1U compact, 1G/10G) · SMG-SW104 (1U, 4 slots, 100G uplink) · SMG-SW818 (2U, 8 slots, redundant power, up to 100G). Port count = slots × installed card: 8 slots × 8×1G = 64 ports, 8 × 2×100G = 16 × 100G; 1G copper/fibre, 10G, 40G and 100G cards mixed in the same chassis.

Key capabilities

- **Spanning Tree:** RSTP / MSTP, PortFast, BPDU/root/loop guard, err-disable recovery; LACP, LLDP, QinQ, IGMP snooping
- **Rings:** ERPS (G.8032), MRP (IEC 62439-2), HSR/PRP RedBox (IEC 62439-3)
- **Timing:** PTP boundary clock, IEC 61850-9-3 power profile, gPTP; hardware timestamping
- **OT security:** 802.1X/MAB/CoA, port security, DHCP snooping/IPSG/DAI, ACL, CoPP; GOOSE/SV allowlist and IDS, IEC 62351-6, IEC 62443
- **Layer 3:** OSPF, IS-IS, BGP, MPLS/L3VPN, Segment Routing, EVPN-VXLAN, VRRP, BFD, IPsec

Management

- HTTPS web (EN/TR) and SSH CLI — industry-established concepts and `show` output; one configuration source
- Validate → apply → read back; backup / rollback / factory reset; signed-package updates
- AAA (RADIUS/TACACS+/LDAP), RBAC, SNMPv3, remote syslog, X.733 event log

Where it is used

- Substation station and process bus — HSR/PRP + power-profile PTP + GOOSE priority
- Rail station rings, signalling QoS, field access control
- Industrial plants, water, ports, defence — IEC 62443 hardening on PLC/SCADA networks
- Operator access and aggregation — QinQ, MPLS, CFM/Y.1731

OT security built in. The two questions of every network with PLCs, IEDs and RTUs — **who may connect, what may pass** — are answered at switch level; every feature is validated against independent peer devices with Simgenet SVP. Detailed product brochure: SMG-UB-SW.

SIMGENET-BRANDED PRODUCTS

08 GNSS Time Server

For records, transactions and protection systems to stay consistent, the whole network must **see the same instant**. The Simgenet GNSS Server distributes satellite-derived time to the servers, network devices and recording systems on your network.

One platform, two roles

The same device and the same software run in two roles. In **grandmaster (T-GM)** mode it disciplines GNSS time and becomes the network's primary time source. In **boundary clock (T-BC)** mode it takes PTP from an upstream grandmaster, regenerates it and distributes it downstream. The role is selected from a per-port configuration matrix; switching requires no reboot, and different domains can run on different ports at the same time.

Redundancy & continuity

- **Dual GNSS receiver and antenna input** — two independent reference cards in active-standby
- **Redundant reference inputs** — GNSS, upstream-GM PTP uplink and external 1PPS input
- **Holdover** — a high-stability OCXO maintains time when GNSS is lost; if the source is doubtful, the clock class is honestly degraded
- **1+1 with two devices** — redundancy via standard BMCA; no permanent time step when a GM is lost
- **Never publishes wrong time** — distribution ports do not open until time is validated

Port configuration & models

- The product is a **model family**, not a single box; port count and interface type are optimized per project
- Depending on the product type, models range from **2 to 24 physical PTP distribution ports**; the 24-port model is running in the field
- 1G and 10G/25G SFP interface options; NTP distribution has no port limit
- Every Ethernet port can be assigned its own **domain, profile and role** (master or slave)

Standards & protocols

- PTP profiles: **ITU-T G.8275.1** (Layer 2), **G.8275.2** (Layer 3/UDP), the **IEC/IEEE 61850-9-3** and **IEEE C37.238** power profiles, gPTP / IEEE 802.1AS
- Delay mechanisms: end-to-end (E2E) and peer-to-peer (P2P)
- GNSS-disciplined **Stratum-1 NTP** server and client
- Multi-constellation GNSS receiver (GPS / GLONASS / Galileo / BeiDou) + PPS
- Hardware-level timestamping; 1PPS / 10 MHz / IRIG-B outputs (card option); PRP/HSR; NETCONF/YANG and REST API

Operation without an antenna — port multiplier. The device does not have to have its own antenna. It can take PTP from an antenna-fed grandmaster and distribute it downstream on many ports as a **boundary clock**. **Architectural gain:** the cost of the antenna, the roof penetration and the high-stability oscillator stays with the grandmaster at the top, while **port capacity is scaled out** with antenna-less boundary clocks below it.

Monitoring & security. PTP clients are monitored in-band (IEEE 1588) without a separate management network; events and alarms go to a black box. HTTPS-only management, role-based access, central AAA via RADIUS, LDAP and TACACS+.

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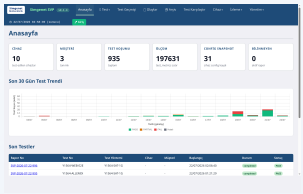
SIMGENET-BRANDED PRODUCTS

SVP Network Validation Platform

An independent test platform built to **validate the delivered network with evidence**. Across **automotive, aerospace, rail, energy and telecom** networks it measures routers, switches, time servers and line quality against international standard references; it is vendor-independent, testing every manufacturer's device with the same method.



Every test layer in one device

Capabilities that require a separate appliance or a separate licence on commercial testers are consolidated into one box: Ethernet traffic and bandwidth testing, PTP/NTP time analysis, service OAM, TSN, IEC 61850 and OT security testing. Every test is recorded in the database with its parameters, raw data and verdict, and produces a deliverable, lockable report.

Line rates

Hardware-timestamped measurement across every line rate found in critical infrastructure:

1 G **10 G** **25 G** **50 G** **100 G** **200 G**

- 64 B up to 9600 B jumbo frames; IMIX and EMIX profiles
- Nanosecond-class hardware timestamping
- Functional validation in the field, conformance and SLA activation in the lab

Test coverage

- **Ethernet performance:** RFC 2544, ITU-T Y.1564, RFC 6349, RFC 2889, RFC 3918 — circuit turn-up and SLA activation
- **Time synchronization:** PTP, NTP and SyncE analysis with standard masks
- **TSN:** 802.1AS/gPTP, Qav (CBS), Qbv (TAS), Qbu/802.3br (frame preemption), CB (FRER) and Qci (PSFP)
- **Automotive Ethernet:** validation of in-vehicle network wiring and production-line links over **100BASE-T1** and **1000BASE-T1**
- **Network testing:** VLAN, traffic generation and impairment injection — delay, jitter, loss, reordering
- **Power automation:** GOOSE/SV generation and analysis in substations, HSR/PRP redundancy
- **Service OAM:** Y.1731, TWAMP and STAMP

Reporting & integration

- Records carry a report number, test number and customer/project/device identity
- Raw-data annex, conformity stamp and report lock
- PDF, CSV and HTML output; unattended multi-test runs
- HTTPS web interface (role-based), REST API and SNMP integration with NMS

Evidence-based delivery. We measure the network we build with our own test platform and document the result together with its standard reference — a measured, lockable report instead of a claim that “it works”.

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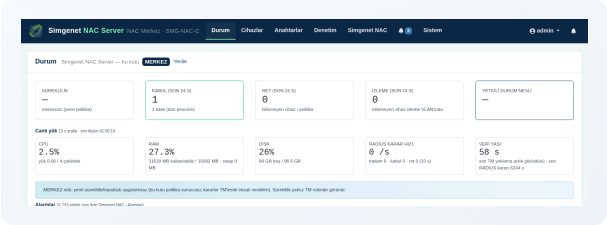
SIMGENET-BRANDED PRODUCTS

Simgenet NAC Server — Network Access Control

An industrial network access control server that **identifies every device joining the network and every person managing network devices, authorizes them by role and records every decision**. A **NAC Core** defines the policy; **NAC Site** nodes in the field run the same software and answer switch requests locally — **the centre goes down, the site keeps running**.



Decide at the centre, answer in the field

Policy, inventory, PKI and reporting at the core; authentication in the field within milliseconds. The site node runs up to 30 days without the core on the last approved policy; the standby core takes over automatically and hands back; nodes share the load.

Key capabilities

- **Access control:** 802.1X EAP-TLS, PEAP/TTLS, MAB; role → VLAN, access list, port class; CoA/Disconnect; quarantine; gradual transition from monitoring to enforcement
- **Device administration:** RADIUS (incl. RadSec) and TACACS+ (RFC 8907, TLS 1.3) — privilege level, command sets, accounting
- **Built-in PKI:** CA, SCEP, EST, OCSP, CRL, certificate-lifetime alarms
- **Profiling:** OT device library (relay, RTU, PLC, IED, GNSS/PTP), inventory, "WHY?" on one screen
- **Monitoring:** X.733 alarm management, SNMPv3 + MIB, CEF/TLS syslog, daily report, support bundle

Capacity (measured)

- Single site node 400,000+ decisions/day
- Core takeover < 5 min, failback < 6 min; policy distribution to 9 sites < 2 min
- Operation without the core up to 30 days; report retention 730 days
- NAC Core hardware: Simgenet SMG-NAC104 1U 19" rack (Xeon, up to 64 GB DDR4, 4 × PCIe); site node on Simgenet hardware or a virtual machine, fully featured on 4–8 GB of memory

Where it is used

- Substation: IED/PLC/RTU registration, timing- and protection-port class, regional core + standby core
- Rail and industrial plants: rejection of non-inventoried devices, local continuity, one policy from the centre
- Government networks: central record of administrator access; IEC 62443-aligned
- One ecosystem with the SMG-SW switch, GNSS Server and SVP; standard RADIUS/TACACS+/CoA with third-party switches

Built for industrial reality. In the field there are IEDs, PLCs and RTUs, not user laptops; the link to the centre is not always there. Instead of guest portals and user agents, NAC Server is built on **device identity, local continuity and device administration**. Detailed product brochure: SMG-UB-NAC.

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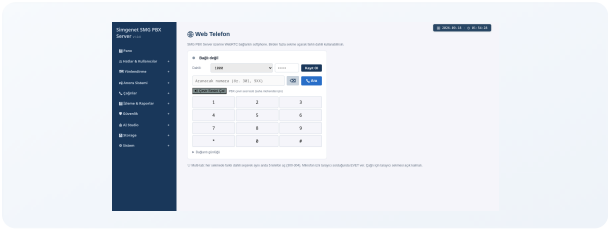
SIMGENET-BRANDED PRODUCTS

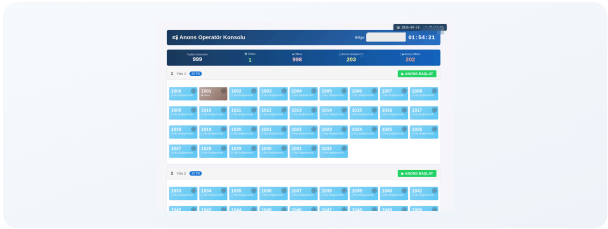
Simgenet PBX Server and Paging System

The organization's voice and announcement layer on one platform: a carrier-grade IP-PBX that supports the standards telecom operators use, scaling from **5 extensions to 100,000 users**, and a multi-zone paging system that reaches **thousands of points with one key**. The software is developed entirely in house at Simgenet.



Simgenet PBX Server

PBX + paging + call recording/archive + SIP security gateway + AAA + monitoring in one box; modules unlock by license. PBX Edge (SMG-PBX-E, module on the SMGOS router, 5–100 extensions) · PBX Server (SMG-PBX-S, 100–10,000 users) · Cluster (up to 100,000 users, HA).



Simgenet Paging System

Zone → direction → point cards on the operator console; "Start Announcement" bridges every point in that direction and the "ready to speak" signal tells the operator when to talk. Up to 2,000 points per node simultaneously; nationwide with clustering.

PBX Server — highlights

- SIP (UDP/TCP/TLS/WSS), SRTP, browser-based web phone; Opus / G.711 / G.722
- IVR matrix editor, queues (6 strategies), conferencing, call recording, voicemail
- Trunk wizard, bulk CSV import, user-group templates
- SIP security gateway, toll-fraud protection, Secure Mode, AAA (RADIUS/TACACS+/LDAP), audit trail
- Lawful CDR and recording retention; load sharing, clustering, HA

Paging System — highlights

- Selective paging: single point, direction, multiple directions, whole zone; emergency page with unanswered-point tracking
- Full-duplex conferencing, talk request/approval, remote microphone control
- Every announcement recorded: audit trail (who / when / zone / points joined), session and compliance reports
- Vendor-independent SIP speakers/phones, analog speaker lines via FXS gateway, radio integration
- Scheduled and SCADA/event-triggered paging; text-to-speech announcements via the AI add-on

One platform, two products. The Paging System runs on the same software as the PBX Server and is also sold on its own under a separate license. Recording archive on the Simgenet Storage Server, timestamps from the GNSS Server, administrator identity from the NAC Server; acceptance delivered with an SVP report.

SIMGENET-BRANDED PRODUCTS

12 Simgenet Storage Server and Serial Device Server

The storage layer where recordings, backups and virtual disks come together, and the device server that connects field serial equipment to the IP network: the data side of critical infrastructure is Simgenet's too.

Simgenet Storage Server

File (SMB/NFS), block (iSCSI, NVMe-oF) and S3-compatible object access from one panel; built-in block provider for virtualization environments. Snapshots, replication, WORM and RFC 3161 timestamps for camera / voice recordings and legal archives. Up to 1 PB per node and 10 PB+ per cluster; 100 GbE; HA failover.

Simgenet Serial Device Server

Carries the RS232 lines of RTUs, protection relays and meters to remote sites over Ethernet. SDS-4 / SDS-8 / SDS-16; 0–512 kbps (200 baud included); TCP / UDP / P2MP; concentration of many sites onto a single RS232 port; −20 to +75 °C, 40–72 V DC / 220 V AC, 1U.

Storage Server — highlights

- AES-256 at rest, TLS in transit; role-based access, AAA (RADIUS/TACACS+/LDAP), audit trail
- End-to-end data integrity, self-healing pools, snapshots and rollback
- Central syslog / recording target: PBX, paging, GNSS, NAC and switch logs on the same layer
- No feature walls — entirely under the Simgenet license; web UI and REST API

Serial Device Server — highlights

- Every baud rate including the non-standard 200 baud; rate, mode and target per port
- RS232 concentration: ports in different regions merged onto one port at the control center
- UDP-based point-to-multipoint (P2MP) SCADA polling
- Web UI, Telnet and console; industrial EMC/EMI; designed for SCADA / RTU communication

One platform family. PBX voice recordings, paging archives, router configuration backups and central logs are collected on the same storage layer; devices recognize each other and communicate over encrypted channels.

SIMGENET-BRANDED PRODUCTS

13 Teleprotection Unit SMG50

A new-generation industrial teleprotection unit for the **secure, fast and dependable end-to-end transfer** of protection-relay commands on 154 kV / 400 kV transmission lines. IEC 60834-1 performance, full compliance with the TEİAŞ-MYD/2024-062.0 specification.

SMG50 front panel

8 input / 8 output latching LEDs; touch status display (status, events, settings) and LED test; Ethernet and USB service ports; CPU, POWER-1/2, TIME, RS232, FIBER, E1 link indicators.

Command inputs / outputs

- 8 isolated digital inputs: 110 V DC (75–140 V) and 220 V DC (150–280 V); signals shorter than 2 ms are not accepted as commands
- 8 relay digital outputs with MOV protection; 110 V DC 1 A / 220 V DC 0.5 A continuous
- 2–10 ms end to end; stable, repeatable distribution

Communication and power

- RS232 · optical fiber (SM, OPGW-compatible) · E1 (ITU-T G.703); up to 3 simultaneous links
- Configurations: RS232 · RS232 + Fiber · RS232 + E1 · RS232 + Fiber + E1
- 2× independent, galvanically isolated, active/active −48 V DC PSUs; hot-swappable

Monitoring and ruggedness

- SNTP (primary/secondary), ≥ 2,000 time-stamped events retained through power loss
- Separate changeover-contact relays for communication and system alarms; web monitoring
- IEC 61000-4 EMC (ESD 8/15 kV, surge 2 kV, 30 A/m), IEC 60255-27, −20 to +60 °C

Specification compliance, documented. The product ships with the TEİAŞ compliance matrix, FAT/SAT test procedures, relay verification documents and a TR/EN user manual; command transfer time is accepted with a Simgenet SVP report.

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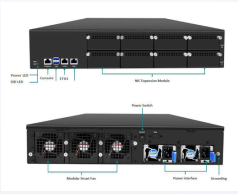
PORTFOLIO

Firewall Security Platforms

The Simgenet Firewall Security Platform is a **hardware product**: the server-class, modular-port, industrial-temperature firewall platform is Simgenet's. It runs the open-source **OPNsense** firewall operating system; the appliance ships with the free Community edition and the customer can move to a commercial subscription independently of Simgenet. Software licensing and software support belong to the software vendor.

Modular Edge & Internal Network Platform

For hotels, factories, campuses and large enterprise internal networks; 19" 1U rackmount, x86 architecture, −20 °C to +60 °C operating temperature.



Datacenter Security Platform

For data centers, service providers and large enterprise networks that require high bandwidth and concurrency; 19" 2U rackmount, server-class 24-core processor, 8 expansion slots, segmentation at 100G speeds.

Security Services

- Stateful firewall, IPv4/IPv6 and zone-based security; ACL and packet filtering
- NAT (source/destination/port/1:1), anti-DDoS, bogon and GeoIP filtering
- **IDS/IPS** — inline or passive mode; L7 control with deep packet inspection
- **ICS/SCADA awareness**: Modbus TCP, DNP3 and EtherNet/IP analysis
- Web application firewall, web proxy, URL and DNS filtering

VPN, Networking & Management

- IPsec (IKEv1/IKEv2, route-based VTI), OpenVPN and WireGuard
- Multi-factor authentication (MFA); RADIUS/LDAP/AD, SSO
- Dynamic routing: OSPF, BGP, IS-IS, RIP and PIM
- VLAN (802.1Q) and QinQ segmentation, VXLAN, LAGG, IPv6 dual-stack
- High availability with CARP virtual IP; traffic shaping and QoS

No confusion. The SMGOS, SMG-SW, SVP, GNSS, NAC, Storage, PBX and Paging software is developed entirely in house; **the Firewall is not on that list**. The Firewall Security Platform is a hardware product; firewall functions belong to the third-party operating system. Models: SMG104-EDGE / EDGE PLUS / EDGE MAX (1U) and SMG818 Datacenter Series (2U); bypass cards for in-line OT deployment.

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PORTFOLIO

Network & Transport Products

Simgenet SMG-SW Series — Top-Tier L3 Switch

- SMG-SW411 · SMG-SW104 · SMG-SW818 — managed L2/L3 switch running the SMG-SW operating system (p. 08)
- RSTP/MSTP, ERPS, MRP, HSR/PRP RedBox; PTP boundary clock (IEC 61850-9-3)
- OT security: 802.1X/MAB, port security, GOOSE/SV allowlist, IEC 62443
- Ports = slots × card; from 1G to 100G

EDFA / Optical Amplifier

DWDM EDFA optical amplifiers for long-haul, high-capacity optical transport infrastructure.

SDH / PDH Multiplexer & Transmission

Beyond product supply, we **build professional transmission systems**: site survey, design, commissioning and long-term support. **VeeCOM** hybrid SDH/IP/MPLS/PTN multiplexers carry legacy SDH services in the metro access layer onto next-generation IP/MPLS backbones; **Huawei/Huahuan** and **Raisecom** platforms provide multi-service transport. Transport of E1/STM-N circuits, convergence of TDM and packet services on a single platform, and migration of existing SDH rings to IP/MPLS are delivered from a single source.

Optical Transport Platforms

Compact OTN/WDM transport platforms for high-capacity fiber transport in energy and enterprise networks.

FSK Modem

Reliable serial/analog-line communication with Dataconnect and UNIMOD industrial FSK modem solutions.

PLC Communication System

Power-line carrier communication with **European-origin** Hitachi and Siemens Powerlink platforms; OFDM-based digital power line carrier systems delivering voice, data and protection signaling over transmission lines.

An end-to-end transport layer. From the IP/MPLS backbone to optical transport, from SDH/PDH to power-line communication — an integrated product family for every layer of critical infrastructure, from design through commissioning under single accountability.

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PORTFOLIO

Communication & System Products

IP-PBX Systems

Enterprise voice and communication infrastructure with the Simgenet PBX Server together with Karel IP-PBX and NEC Univerge solutions.

Paging / PA System

Simgenet Paging System — multi-zone paging, conferencing and alerting infrastructure for power facilities, stations and campuses (p. 12).

Serial Device Server

Simgenet Serial Device Server — integration of RS232 equipment into IP networks; RS232 concentration and P2MP (p. 13).

Server, Storage & Infrastructure

Enterprise server, storage and data-center infrastructure solutions with the Simgenet Storage Server, delivered with end-to-end system deployment.

Critical infrastructure from a single point. By designing and supplying the network, transport, voice, paging, timing, storage and server layers together, we become the single accountable partner in your projects.

Primary Sectors We Serve

Energy
Substations, transmission lines, power plants

Railway & Transport
Station & trackside communication

Telecom & ISP
Backbone, metro and access networks

Defense
Secure and sovereign infrastructure

Public Sector
Critical public infrastructure projects

Industry
Factory and automation networks

SimgeNet Mühendislik

Your solution partner

Get in touch with our expert team for your industrial networking needs — fast quotation and technical support.

Our Own Software

Our product software is entirely original and developed in house; customized on request.

Broad Portfolio

100+ products across 15 categories; network, transport, voice, timing and system infrastructure.

End-to-End Service

Design, supply, deployment and long-term support from a single source.

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