

R&S® TRUSTED VPN

IP ENCRYPTOR

Specifications

R&S®Trusted VPN is a hardware based encryption device that enables secure data exchange through IP networks and ensures data confidentiality and integrity. In the modern business world, business processes are increasingly centralized and moved to data centers or clouds. At the same time, the number of remote working places is growing rapidly. Inevitably, data must be transmitted over public IP networks. This enables malicious third parties get access to sensitive information. The solution is virtual private networks (VPN).

R&S®Trusted VPN was developed to meet the needs of authorities and companies with higher security requirements, and to secure classified information. R&S®Trusted VPN has the following key features:

- Highspeed layer 3 encryption
- Fast putting into service and easy exchange of certificates through centralized management
- TPM based authentication
- Minimizing potential attack vectors through logical separation of user and management levels

Characteristics

System	
Services	<ul style="list-style-type: none">• IKE server, IPsec server, IP filter, DHCP client/server, NTP client• VLAN support• policy based access and routing according to network/port profiles• redundant VPN gateways• network address translation (NAT): net-to-net, host-to-net• VPN concentrator functionality for forwarding the entire data traffic through a central appliance• gateway of last resort configuration
Management	<ul style="list-style-type: none">• the devices are initialized, configured and controlled through a central security management system; the devices are also protected against identity theft and man-in-the-middle-attacks through TPM based authentication• web based administrator access to the management server via dedicated Ethernet port• integrated deployment service with firmware rollout according to freely selectable groups• comprehensive control mechanisms and revision-proof reporting• smartcard based user authentication
IPsec protocols	<ul style="list-style-type: none">• encapsulating security payload (ESP)• NAT-traversal (NAT-T)• dead peer detection (DPD)• integration of sites without public static IP address
VPN modes	<ul style="list-style-type: none">• site-to-site VPN for direct connection between two sites• VPN software client support• internal IP addresses for VPN road warriors can be assigned in the source NAT process

Data sheet | Version 05.01

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Cryptography and security

Internet key exchange	<ul style="list-style-type: none"> • Diffie-Hellman (2048 bit to 4096 bit) or ECC (Brainpool P512r1) • perfect forward secrecy (PFS) • IKEv2
Authentication procedure	<ul style="list-style-type: none"> • via X.509 certificates RSA (2048 bit to 8192 bit) or ECC (Brainpool P512r1) • external (only road warriors) or integrated certificate authority (CA)
Encryption	<ul style="list-style-type: none"> • symmetrical algorithms AES-128, AES-256 • hash functions SHA-2 256, SHA-2 512
Secure boot and HDD encryption	<p>R&S®Trusted VPN uses a mixture of UEFI secure boot and TPM based trusted boot to implement two security functions at the same time:</p> <ul style="list-style-type: none"> • securing the integrity of the system software while booting • hard disk drive encryption for protection for protection of the data

Technical specifications

	R&S®Trusted VPN-S	R&S®Trusted VPN-L	R&S®Trusted VPN-XL
Encryption performance (bidirectional)			
1 tunnel	250 Mbit/s	600 Mbit/s	1400 Mbit/s
254 tunnels	–	600 Mbit/s	6000 Mbit/s
Recommended number of clients	< 100	< 1000	< 3500
CPU	1.1 GHz Intel® Celeron® N3350	2.4 GHz Intel® Atom™ CPU, 8 cores with AES, new instructions (AES-NI)	Intel® Xeon Silver 4210, 2.2 GHz CPU, 10 CPU cores with AES, new instructions (AES-NI)
RAM	1 Gbyte onboard memory, 1 × SODIMM socket	4 Gbyte	16 Gbyte
Hard drive disk	16 Gbyte onboard eMMC	32 Gbyte SATA	2 × 1 Tbyte SATA RAID level 1
Ethernet interfaces	2 × Gigabit Ethernet	8 × Gigabit Ethernet	2 × 10 Gigabit Ethernet - SFP+ 4 × Gigabit Ethernet
TPM	TPM 2.0	TPM 1.2/2.0 (generation 2)	TPM 2.0
Design type	desktop device	19" RU	19" RU
Additional features	LCD display, passive cooling	LCD display	
Power supply	12 V DC input, external power supply unit 24 W with connector plug	150 W ATX	2 × 500 W (redundant)
Power consumption			
Idle	4.2 W	24.2 W	75.8 W
Load	7.3 W	31.6 W	103.4 W
BTU/hour	82 BTU/h	512 BTU/h	82 BTU/h
Temperature range			
Operation	0 °C to +50 °C	0 °C to +40 °C	+10 °C to +35 ° at sea level with a reduction of 1 °C per 305 m above sea level (maximum: 3050 m), no direct persistent sunlight
Transport and storage	–20 °C to +70 °C	–20 °C to +70 °C	–30 °C to +60 °C
Humidity during operation	10 % to 90 % relative humidity, without dew	20 % to 90 % relative humidity, without dew	8 % to 90 % relative humidity, without dew
MTBF			
Device	528 113 h	492 530 h (with integrated power supply unit)	445 260 h (with integrated power supply unit)
External power supply unit	175 000 h	–	–
Dimensions	4.2 cm × 16.5 cm × 10.2 cm (1.65 in × 6.5 in × 4.0 in)	4.32 cm × 43.47 cm × 29.1 cm (1.7 in × 17.11 in × 11.46 in)	4.32 cm × 43.47 cm × 74.67 cm (1.7 in × 17.11 in × 29.4 in)
Weight			
Device	0.8 kg (1.8 lb)	2.7 kg (6.0 lb)	16.7 kg (36.8 lb)
External power supply unit	0.2 kg (0.4 lb)	–	–

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