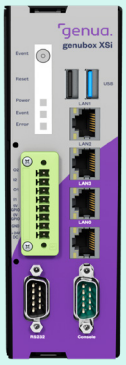
genubox

Facts & Features



genubox is available in various hardware and software versions.

Remote Maintenance Solution

Definition

genubox combines remote maintenance, monitoring, crypto, and filter functionality with a compact application platform. It is developed for the secure remote management of application servers as well as complex industrial plants via insecure networks. For the exchange of data, genubox initializes SSH-based tunnels to the maintained systems with strong authorization and encryption algorithms such as AES. genubox completely separates the network of the service provider and the network of the system operator. The integrated application level gateway even separates remote desktop connections on application level.

Reasons to Choose genubox

- A versatile solution for smart remote maintenance applications
- Different hardware versions for operation in 19" rack cabinets or DIN rail installation as well as software versions for operation on customer systems or in public clouds
- Strongly encrypted data transfer
- SSH-based VPN to connect overlapping networks
- Two factor authentication e.g. via RADIUS, smart card, Yubikey or key switch
- User-friendly Windows app supports host integrity check via Windows security center
- Remote access session can be monitored and recorded (RDP, VNC, SSH)
- Monitoring via SNMPv3 and Syslog logging
- Based on genuscreen, a firewall & VPN appliance certified according to Common Criteria and approved by the German Federal Office for Information Security BSI
- Easy integration of applications for machine monitoring, remote diagnosis, remote management access, and preventive service systems
- Central administration of all components

Typical Use

- Remote maintenance access to target systems, e.g. IT/OT objects based on TCP such as machine/plant control stations or production lines via OPC UA, S7, MODBUS TCP etc.
- Remote administration of Windows-related systems via RDP or SSH

Customer Service

- Customer service directly from the manufacturer
- Security system management
- Hotline and update service
- Comprehensive training courses

SecurITy made in Germany

Excellence in Digital Security.

Rendezvous	
Secure access	SSH tunnels for remote maintenance, multi-factor authentication via RADIUS, Smart Card or Yubikey
Full control	Communication must be launched from both sides, operator can stop communication at any time
Operator GUI	Easy to use web interface to manage remote maintenance
Access authorization	Assign or withdraw write access for maintenance provider on the fly
Observe	Intercept clear text on the rendezvous system
Isolate	Separate the target system from the rest of the network
Audit	Complete logging of all transactions, recording of remote desktop sessions
Application Level Gateway (Remote Desktop)	Separation by window manager instance with VNC server and VNC/RDP client for each target system
Windows app	Remote maintenance app for maintenance providers and system operators, enhanced security by host integrity checks
File transfer	Secure data transfer through integration of virus scanner option via ICAP and storage of the transferred data

Firewall	
Stateful packet filter	State of the art firewall for manageable rule sets
Bridging firewall	Invisible firewall on the data link layer (layer 2)
Network Address Translation (NAT)	Masquerade networks behind one address
Quality of Service (QoS)	Guarantee service priorities
Queuing (traffic shaping)	Bandwidth management to control traffic volume
Traffic redirection	Forward public services to internal services
Filter criteria	Filtering decision can be based on IP address, network protocol, port, interface, flags, and state
Filter action	Choice of packet handling: pass, block, drop
DDoS protection	Proxy for the TCP handshake protects services against TCP SYN floods used by DDoS attacks
Spoofing protection	Block forged packets
Packet normalization	Reassemble fragmented packets, generate random IP identification, enforce IP header settings such as TTL and MSS
Enhanced protection	Privileged separation, sandboxing

Virtual Private Network (VPN)	
SSHId	VPN on the protocol layer (layer 4, TCP)
IPsec	VPN on the network layer (layer 3)
Bridging Ipsec	VPN on the link layer (layer 2)
L2TP	Support for Android, iOS, Mac OS X, Windows (layer 2)

Networking	
General	
Redundant network access	Multiple uplinks
DNS	Enable local DNS caching
NTP client	Obtain time from NTP servers
DHCP server	Automatically assign IP addresses to clients
DHCP relay	Forward DHCP queries to central DHCP server
VLAN	Supports virtual LANs to separate networks
Trunking	Aggregate multiple network interfaces on one virtual interface

genua.

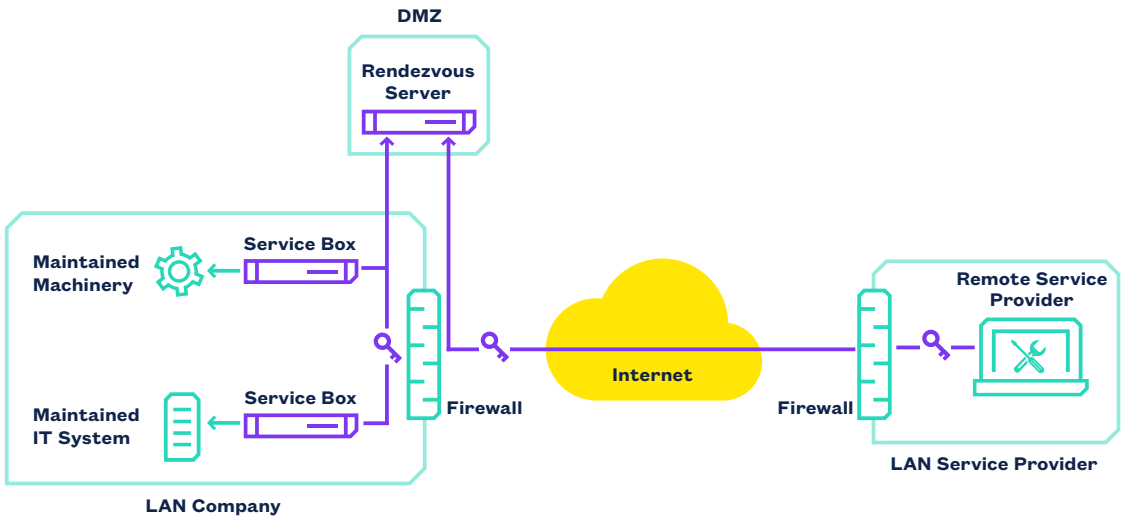
Networking	
IPv6	
Native IPv6	Fully IPv6 ready
Tunnelling	Use tunnelling to cross legacy IPv4 networks
NAT64	NAT between IPv4 and v6
Routing	Policy based routing Based on IP addresses/networks
Static routes	For small and easy setups
OSPFv2, v3	Popular routing protocol among large corporate networks
Virtual routing domains	Separate routing domains on one appliance

Integration	
Application platform	Development and integration of customer-specific software
Maintainer Box	Appliance as access point for external applications enables access to target systems
genuview	Scalable access and storage management solution for remote desktop session video recordings
Virus scanner	Optional external virus scanner with ICAP interface
Access management system	Support of OKTA, Azure Active Directory, Microsoft Active Directory, and RADIUS

Administration	
General	
Web GUI	Powerful web-based user interface secured with TLS/SSL (HTTPS)
Online documentation	Instant help via user interface
Shell access	Local using console or serial interface, remotely using SSH
USB update	Fix offline systems with USB stick
Patch Management	
GUI	Get and install patches via GUI
Automatic updates	Automate the process of fetching updates for the appliance
Patch rollback	Return to previous patch level
Logging	
Syslog	Use a third party syslog server to store logs
Hard drive	Use appliance hard drive for storage, if available
Memory	Logs are recorded in memory
Central	Use genucenter to concentrate the logs on one system
Common Event Format	Enable monitoring of remote maintenance access by SIEM systems
Debugging	
Network	Powerful command-line tools: tcpdump, traceroute, ping, etc.
Firewall	Status, rules, and logs monitoring
VPN	Connection status overview and problem analysis
Central Management	Easy administration of several (thousand) systems with management station genucenter
Integrity check	Rendezvous configuration is checked for integrity at configuration time

More product information

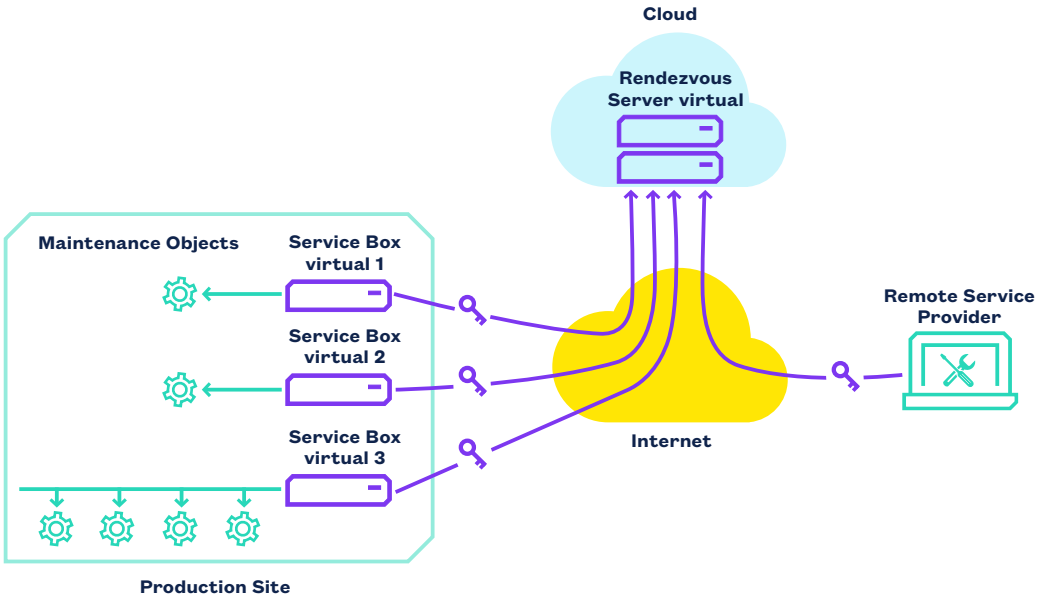
Use Cases



Secure Remote Maintenance via Rendezvous in the DMZ

The genua rendezvous solution allows extensive maintenance access control. The remote maintenance provider and the system operator create connections to a rendezvous server in a DMZ (demilitarized zone).

Access to target systems is provided for users or user groups based a on a whitelisting policy. As default, access must be granted at runtime by the operator. All activity is logged and can be monitored in real-time as well as recorded on video.



Secure Remote Maintenance within Virtualized Environments

The rendezvous server can be operated as a software application in public clouds as well. It is also possible to operate virtualized service boxes locally. For this use case, various hypervisors are supported.

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Further Information:

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