



E-Mail
Routing
Security
Remote Access
Crew Services
Tracking

The Team

Innovation Meets Experience

SnakeWays has been founded by a team of maritime technology professionals with decades of experience. We know what works – and what doesn't.



Peter Schulze

Managing Director

After 30 years in the industry, be it software, hardware or technology, Peter has the answer.



Barbara Jansen

Director of software development

Need the perfect solution? If it can be done, Barbara will do it, as she did for 25 years.



Sidney Townsend

Customer support manager

Looking for happy customers? Let Sid do the job, he has done this for more than 20 years.



Gregor Ross

Chief commercial officer

After more than 40 years in this business, there is nobody left that he doesn't know.

The Concept

Today's Technology for Today's Challenges

SnakeWays provides state-of-the-art connectivity services to every type of seagoing vessel. At the heart of the SnakeWays concept, there are two core elements:

SnakeCloud

The shore-based management server

On shore, each customer has their own dedicated virtual server instance, the SnakeCloud. SnakeCloud provides system management, centralized configuration, reporting, and support services to the shipboard SnakeBoxes.

SnakeBox

The shipboard router and application host

The SnakeBox provides the routing and application functionality on board the vessel. SnakeBox manages the interfaces between the shipboard IT and communication networks such as Inmarsat, Iridium, VSAT, GSM, and public Wi-Fi. It also hosts the SnakeWays services. The SnakeBox is fully independent and is OS and platform agnostic. The SnakeWays services can be accessed on board using any platform or device.

SnakeMail

Innovative maritime E-Mail in perfection

SnakeSwitch

Smart network switching

SnakeWall

The intelligent solution to shipboard firewalling

SnakeDoor

Remote access to your ship's network

SnakeCrew

Powerful crew services

SnakeTrack

Feature rich vessel tracking

The SnakeBox

Reliability Now Has a Name

The SnakeBox is the shipboard device that provides the platform for the SnakeWays services.

The majority of shipboard "comm boxes" in service today are built on classic network devices using technologies that have been around for a decade and more. SnakeBox is different. Based on the latest technology, designed initially for smartphones, the SnakeBox is the smallest, lightest, most cost-effective device of its kind on the market today.



Additional hardware modules, such as the internal 4G/LTE card that gives you access to GSM networks, are available to extend the SnakeBox functionality.

Features

- Industry unique low-power design with no noticeable heat dissipation
- Highly integrated for a long lifespan
- Five standard Auto MDI-X Ethernet ports
- Mounting bracket for secure bulkhead or table installation
- Sturdy metal frame case with ABS cover
- Rackmount version upon request
- Integrated Wi-Fi usable as an access point (LAN) or managed interface to connect to an external Wi-Fi network (WAN)
- Minimal configuration effort: a true self-install

Additional hardware modules

- 4G/LTE Mobile network interface with GPS
- 2nd Wi-Fi interface
- Stand-alone GPS receiver

Technical specifications

Memory	2G DDR3 SDRAM
Internal SSD	8G eMMC flash
Data storage	SD card 64GB (optional 128 GB, 256 GB or 512 GB)
Ethernet ports	5x Auto MDI-X
CPU	MediaTek MT7623N, Quad-core ARM Cortex-A7
USB port	1 x USB 3.0
Dimensions	170 x 120 x 50 mm
Power supply	External adapter 100-240V AC, 12V 2A DC
Approvals	CE FCC RoHs
Operating temperature	-10°C to 70°C

SnakeMail

Maritime E-Mail in Perfection

Efficient

Industry leading compression and connection management

Reliable

Parcel like message tracking

Secure

Integrated virus and spam filter

Flexible

Corporate domain support

Cost-cutting

Extensive filter options

Crew friendly

Quotas and limits

Redundant

Built in backup service

Easy

Built in fully featured webmail service

SnakeMail

SnakeMail is one of the system's core elements, providing a fully-featured and reliable E-Mail service.

Efficient

SnakeMail operates over any TCP capable network connection, fast or slow, dependable or erratic, expensive or affordable. SnakeWays will always get your traffic across. Regardless of your connectivity, our proprietary transfer technology will assure reliable, secure, and efficient real-time message delivery to and from your ships.

Reliable

As an Industry first, SnakeMail provides real-time parcel like end-to-end E-Mail tracking. Check on either ship or shore where your mail is. Going beyond traditional delivery notifications, it reports about the reading and forwarding of a message for each recipient and allows you to act on failed or delayed messages. Check on either ship or shore where your mail is.

Secure

SnakeMail protects and safeguards your messages. All mail traffic is filtered for viruses and spam, protecting you from unwanted and dangerous content. All communications support and prioritize the secure E-Mail protocols SSL, TLS, and STARTTLS. VPN or leased line connections are available for end-to-end secure communications between ships and customer premises.

Flexible

With SnakeMail, you can choose between E-Mail addresses provided by SnakeWays or keep your corporate mail identity. SnakeCloud receives E-Mail directly from the internet using encrypted IMAP, POP3 and SMTP protocols. It collects your messages from a wide choice of E-Mail services, including Office 365, Microsoft Exchange, and many others. SnakeMail goes one step further and also keeps the 'Sent' mailbox folder on the ship in sync with your corporate mail account, without additional overhead.

Cost-cutting

With SnakeMail, you have complete control over your messaging. A choice of mail filter settings keeps you in control of your traffic both in- and outbound.

Crew friendly

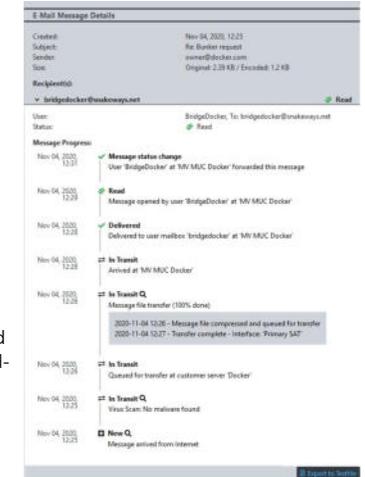
Crew E-Mail accounts can be subject to message size limits and quotas to give your crew reliable, and affordable E-Mail services.

Redundant

The SnakeBox stores your mail data on an encrypted SD card that can be easily moved to a spare SnakeBox. The automated backup system silently stores a password-protected copy of your valuable mailbox content on a storage device of your choice.

Easy

SnakeMail makes accessing your E-Mail easy. Use your favourite mail client or the mobile device aware webmail service. You can use SnakeMail with any PC, laptop, tablet, or mobile phone and even switch seamlessly between devices.



SnakeSwitch

Intelligent Network Switching

Flexible

Manage any number of internet connections

Economic

Data usage-based switching

Dependable

Smart circuit quality detection

Reliable

Flexible fallback configurations

Secure

Firewall settings follow network selection

Transparent

Clear status indication on dashboard

Manageable

Manual and emergency override options

SnakeSwitch

SnakeSwitch provides dynamic uplink switching for multiple wide area network (WAN) circuits. These can be satellite connections, mobile, Wi-Fi, or any other IP network. SnakeSwitch monitors circuit availability and provides manual or automated switching between WAN circuits based on a wide choice of criteria.

Flexible

Operate as many network WAN connections as your ship's installation requires. External satellite or other IP connections are equally well supported as are the LTE and Wi-Fi circuits provided by the SnakeBox. SnakeBox LTE and Wi-Fi fully support roaming and automatically connect to available networks once in range. Assign WAN connections to any LAN and use multiple WANs simultaneously.

Economic

SnakeSwitch supports route changes based on circuit availability, and it extends the concept to quota-based switching. This combination caters for connection reliability as well as cost effectiveness. Define a quota for any circuit over a given time frame and SnakeSwitch will fall back to the next defined circuit once the quota has been reached. Make full use of your service provider plan while still assuring permanent network connectivity.

Dependable

Smart circuit sensing assures that only networks, that can reliably transfer data, are selected. Unstable circuits, such as a link over a weak mobile network signal, are not chosen until they can assure reliable service.

Reliable

Flexible fallback patterns, quotas and intelligent circuit changes combine to bring you a reliable automated switching service that assures uninterrupted and economic network access.

Secure

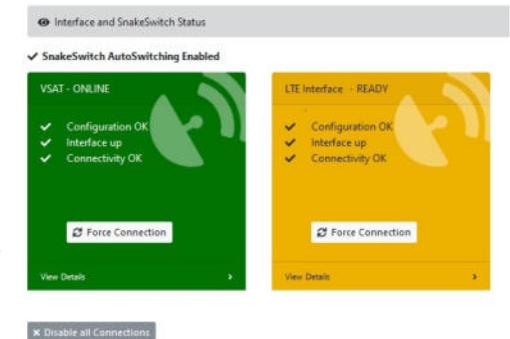
Whilst fully independent, SnakeSwitch works in harmony with the SnakeWall service. A network connection change automatically triggers a switch to the firewall rules defined for the active circuit by SnakeWall. It assures full network security across any network path and protects you against unwanted usage and surprise bills.

Transparent

The SnakeBox control panel is easily accessible from any PC or mobile device and gives you instant status information. Detailed information and circuit check options assist you in controlling your network devices and connections.

Manageable

A manual circuit selection, a temporary WAN suspension, and an emergency network disconnect option are provided to cater for exceptional circumstances. To troubleshoot your satellite terminal or network router, the SnakeBox provides access to the device configuration screen through an easily accessible network URL.



SnakeWall

The Clever Solution to Shipboard Firewalling

Cutting Edge

Uses AI to track content distribution networks

Dynamic

Auto tracks a domain as it switches IP

Comprehensive

Set different rules for each LAN/WAN configuration

Independent

Completely standalone from the shipboard network

Easy

Pick an address – click allow or block

Flexible

Whitelist, blacklist or a combination

Remote Control

Configured on board or from ashore

SnakeWall

SnakeWall brings a ground-breaking approach to firewalling of shipboard networks.

Establishing, configuring, and maintaining the firewall of a remote, globally mobile, shipboard IT network presents a challenge to any IT professional. Magnify that challenge by adding multiple LANs on board combined with a variety of WANs using satellite and terrestrial services to connect to the outside world. Then consider that a ship in mid-ocean has no qualified IT personnel on board and can't call the local IT shop to send someone around for support. It becomes a very special challenge indeed.

SnakeWall was launched precisely to meet that challenge. Designed and developed by an expert team with decades of experience in maritime IT, it not only meets the challenge but goes beyond. SnakeWall deploys machine learning techniques that will automatically track the shifting targets on the internet of today whilst simultaneously simplifying the task of maintaining the security of the IT on board.

Independent

SnakeWall is hosted on the SnakeBox, SnakeWays smart shipboard device. As such the firewall service is entirely independent of existing shipboard networks. SnakeWall does not require any installation on, or reconfiguration of, the ship's existing networks.

Intelligent

SnakeWall deploys artificial intelligence to keep the shipboard firewall up to date. An increasing number of key services to the vessel, navigation updates, weather services, statutory notices, are making use of content distribution networks to deliver their data. These can be extremely difficult to handle with traditional firewalling techniques.

Intelligible

SnakeWall is configured using pre-defined rulesets. Each rule within a ruleset can be defined in everyday language using the domain name of the selected service. Knowledge of IP addressing, protocols, or port number allocation is unnecessary. SnakeWall comes with a number of rulesets pre-defined for commonly used maritime services.

The screenshot shows the 'Network Setup for "SnakeWays Europa"' interface. At the top right, it indicates 'Status: Online - Iridium Certus' and 'Time (UTC): Apr 22, 2022, 09:39'. Below this is a 'Network Setup' section with a 'Firewall' tab selected. The interface is divided into two main sections: 'LAN Firewall Settings' and 'WAN Firewall Settings'. Each section contains a table of rules with columns for 'Edit', 'Name', 'Firewall Status', 'Block', 'Allow', and 'DNS'.

LAN Firewall Settings					
Edit	LAN	Firewall Status	Block	Allow	
<input checked="" type="checkbox"/>	Business LAN	<input type="radio"/> Allow Everything	N/A	N/A	
<input checked="" type="checkbox"/>	Crew WiFi	<input checked="" type="radio"/> Use Rulesets - Default Block		Twitter - Chat Web Browsing Whatsapp and other apps Voice and Video	

WAN Firewall Settings					
Edit	WAN	Firewall Status	Block	Allow	DNS
<input checked="" type="checkbox"/>	Iridium Certus	<input checked="" type="radio"/> Use Rulesets - Default Block		Admiralty (UKHO) Updates Coast and Sea - Met Office UK eNCAD (https://ensad.nmcc.uscg.gov/) NOAA (www.weather.gov/maine/) WhatsApp Chat	<input type="radio"/> Auto
<input checked="" type="checkbox"/>	Lit. Interface	<input checked="" type="radio"/> Use Rulesets - Default Allow	Apple Updates Google Chrome Updates Windows Updates		<input checked="" type="radio"/> Auto

Infinite

Specifically designed for the marine environment, SnakeWall lets you configure separate rulesets for the multiple WAN and LAN connections on board and any combination of the two. An infinite number of combinations, Crew via Iridium, Ship's business via VSAT, Crew via 4G, can be configured and maintained by SnakeWall. The ability to blacklist services on the primary WAN/LAN while simultaneously whitelisting services on the secondary WAN/LAN is a unique feature of SnakeWall.

SnakeDoor

Remote Access to Your Ship's Network

Easy

Access to any device on your ship's network from shore

Flexible

Configure your sat terminal, access a PC desktop, view a webcam and more

Efficient

On demand connections, no data usage while off-line

Economical

Data compression and TCP optimisation

Ready

No need to install anything on the ship's network

Autonomous

No configuration or assistance by ship personnel required

Automated

See all discovered devices and connect with a click

Reliable

No matter the link, you can rely on SnakeDoor

Secure

Encrypted connections between ship and shore

SnakeDoor

SnakeDoor is literally the door to your ship's network. The service provides an easy to use and cost-efficient way to access any PC or network device connected via the SnakeBox smart device.

Independent of your operating system, you can use your preferred remote access tool to connect to any device on your ship's network. SnakeDoor takes care to establish your connection, and run it reliably and efficiently while keeping your data protected against intrusion, eavesdropping and cyber-attacks.

Easy

To start a connection, you simply log into the SnakeCloud web interface, select the remote site and service you wish to use and then click to establish a remote session. SnakeCloud maintains a list of devices and services that the SnakeBox has detected at the remote location.

Flexible

SnakeDoor supports any TCP based protocol giving you:

- Remote PC desktop access using RDP or VNC protocols
- Access to configuration pages on terminals, routers, machines and other devices
- Remote terminal sessions using telnet, SSH or other protocols
- Webcam or recorded video viewing
- Entry to machines and IoT devices for data, control and management

... and a lot more

Efficient & Economical

All links are compressed utilizing a custom protocol designed by the SnakeWays developers. The protocol minimizes the data consumption and makes sure that only required data is transferred. There is no data consumption once a connection has been terminated or timed out.

Convenient

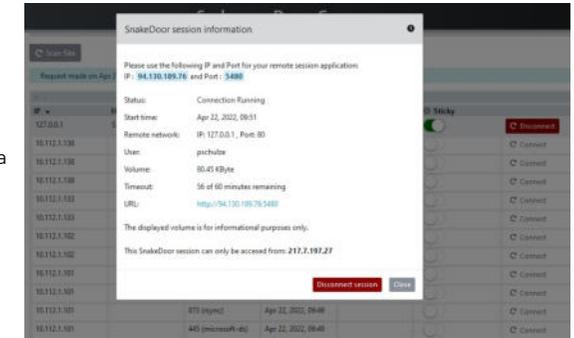
There is nothing to install, setup, configure or enable at the ship. Without the need of any user input on the vessel, you do not depend on the working hours and knowledge of users onboard.

Reliable

SnakeDoor is designed for use with all types of internet connection, be it a fast 4G link or a low bandwidth, high cost, or unreliable internet connection. It performs flawlessly across firewalled and network translated services and supports providers that exit to the internet using shared IP's.

Secure

All connections are completely managed and secured by the SnakeDoor service. SnakeDoor fully protects your data using the latest encryption standards on the connection between your SnakeCloud instance and the SnakeBox at the remote location.



SnakeCrew

Powerful Crew Services

Easy

Captive portal for quick connections to the internet by PC, tablet, or mobile phone

Controlled

Voucher-based access management

Flexible

Static or switched crew traffic routing using SnakeSwitch

Secure

Fully integrated with the SnakeWall dynamic firewall service

Efficient

Traffic prioritisation, DNS management, network optimisations

Friendly

Web interface for crew and captain

Accessible

Local and remote management and reporting

SnakeCrew

Providing internet access to the ship's crew while maintaining security and controlling costs is challenging. SnakeCrew leverages the power of the SnakeBox to bring the internet to your crew while you stay in the pilot's seat.

Easy

Crew access is controlled by a login screen that pops up when a user attempts to access the internet. With full support of mobile phones as well as PC's and tablets, authentication is not only simple but also very quick. The same permanent credentials open access to the internet, SnakeMail and other SnakeWays services.



Controlled

All usage is subject to available credit in the crew member's SnakeWays account. Credit is provided using vouchers given or sold by the captain or company. Alternatively, the captain can directly assign a voucher or credit a crew member. Voucher denominations can be configured to match the company's policies and requirements.

Flexible

SnakeCrew fully integrates with the SnakeSwitch feature. Crew traffic can be routed following the standard WAN switching rules with the additional option to disallow all crew traffic on specific circuits. Alternatively, crew traffic can be forced through a specific WAN port independent of the normal traffic routing. If required, multiple crew LAN interfaces can be defined, each with separate settings.

Secure

Tightly controlled by the SnakeWall firewall feature, crew traffic can be restricted to a limited set of services like WhatsApp, specific web pages or services. SnakeCrew supports the most demanding crew traffic management scenarios. It can provide full internet access while on a low-cost circuit, restrict the crew to text only services like WhatsApp over satellite and completely block the crew over an expensive fallback path.

Efficient

The SnakeBox manages all IP traffic to prioritize business over crew data. Intelligent DNS management and optimised IP handling ensures that only data needed to provide the required services is sent. Data is only consumed when a crew member is actively using the service.

Friendly

The SnakeBox web interface provides the captain and users with a single login for all services. Crew can review credit and consumption reports, redeem vouchers and manage the connection. The captain has access to the reporting and the voucher management systems.

Accessible

Integrated with the SnakeCloud service, SnakeCrew can be managed on either ship or shore.

SnakeTrack

Feature-Rich Vessel Tracking



Reliable

Tracking

Dependable position data collection, transfer, and storage

Economic

Background data transfer

Easy setup

Integrated SnakeBox modules or auto detect external devices

Map display

View position, track history, geofences, and events

Reporting

Flexible passage reporting and data export options

Geofencing

Set your own or import geofences, set alerts, and review past events

SnakeTrack

SnakeTrack extends the SnakeBox capabilities with location and tracking functionality.

Reliable

SnakeTrack is fully integrated into the SnakeBox smart router. All data is stored locally and sent to shore at user defined intervals. If there is a break in the communications path, the data is queued for delivery once connectivity resumes, thus ensuring gap-free position data.

Economic

Position data is highly compressed and sent to shore as part of the SnakeBox background data service, typically at no extra costs.

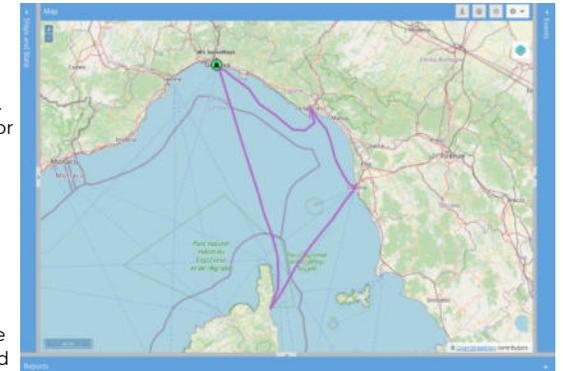
Easy setup

Position data is sourced from either the internal GPS or LTE/GPS modules of the SnakeBox or external devices like a sat terminal. Detection of the correct hardware is automatic.

The SnakeWays internal devices use the latest chip sets and receive signals from GPS, Baidu, Glonass and Galileo satellite constellations. The SnakeBox GPS hardware supports active antennas, allowing for extended cable lengths.

Map

The SnakeCloud shore server provides a convenient, fully featured, mobile aware display of your vessel positions. The map provides a live view of tracks and current positions as well as visualisation of past data. A global view of the whole fleet is available for display or integration into your website.



Reporting

SnakeTrack provides live and historical reporting in Excel format as well as NMEA standard data for import into third party systems. Options to report on passages, stoppages, and voyage summaries complete the rich features like distance, maximum and average speed calculations.

Geofencing

SnakeTrack supports a rich set of geofencing features. Fences can be defined manually or data for fishing and danger zones, territorial waters and many others can be imported.

Alerts are triggered upon entering and leaving a zone. Zones and alerts can be set for individual vessels, a group or the fleet. All events are stored in the database and can be reviewed and exported in excel format.

Why SnakeWays?

There Are Many Reasons

Reliable

- Single low power stand-alone device
- Fewer points of failure
- Simplified network layout
- Build in Redundancy
- Independent of Windows
- Single point of support
- Multiple circuits with automatic failover

Efficient

- Network optimisation
- Smart least cost routing
- Traffic filter and management

Secure

- Firewalling
- Network isolation
- Access control
- Encryption
- Antispam and Antivirus

Cost cutting

- Convenient software and hardware as a service
- Pay only for the services that you need
- Avoid engineer visits
- Minimal up-front costs
- Save expenses for support
- Reduce airtime costs

Get Yours

Where to Get SnakeWays

SnakeWays services are distributed and supported by our global network of resellers.

To find your nearest dealer, please visit

<https://www.snakeways.com/get-yours/>

contact us by E-Mail:

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