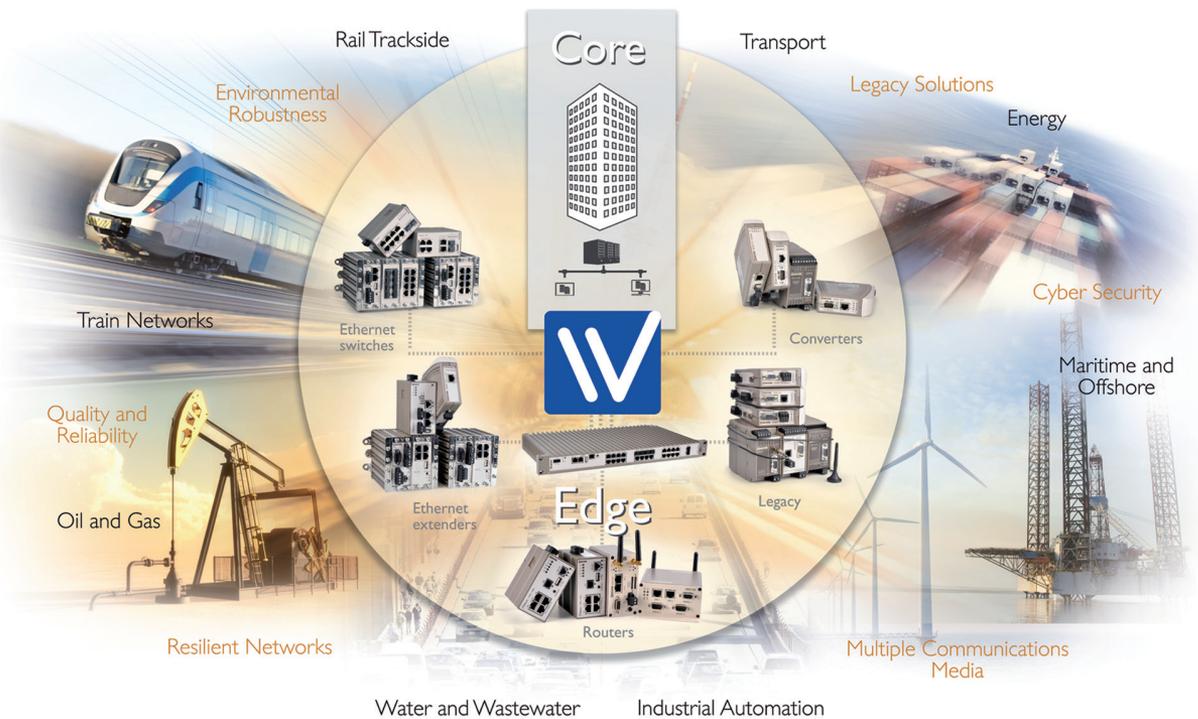


Edge Network Solutions

Ensure reliable mission critical networks



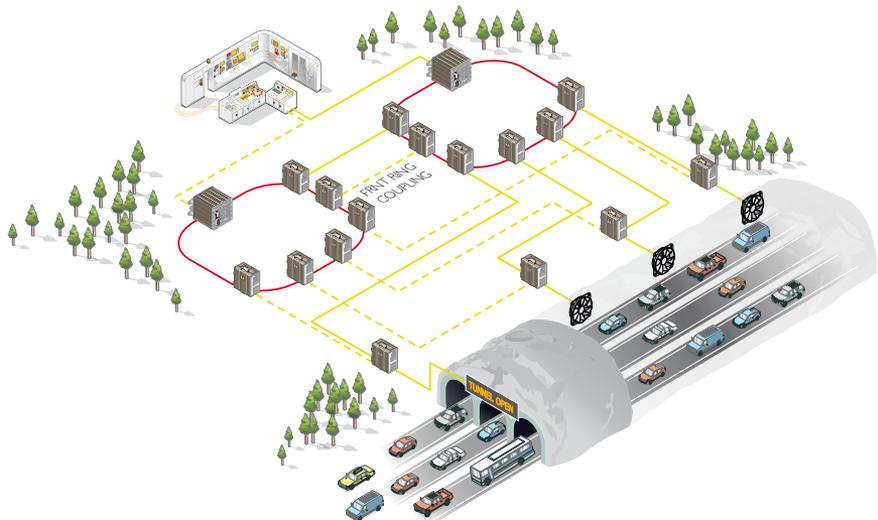


Mission critical networks

The drive for greater business efficiency and customer satisfaction, coupled with the desire for a smaller environmental footprint is creating new networking challenges for many companies.

Data networks are the central nervous system for nearly every critical business system, transportation solution and utility that we rely on. Mission critical networks must be extremely resilient. They provide fresh drinking water to our homes and workplaces, 24/7 electricity, waste water systems, regular and reliable rail services, traffic control, global marine transportation of goods and more.

It is essential to have the right solution in place. A system that does not work correctly will be expensive to run and maintain, inconvenient, dangerous and damaging to the environment.





Edge Network Solutions

Every second of the day vital data is collected at the edge of data communications networks and transferred to the core of companies' business systems. Decisions made at the core can then be communicated back to the edge of the network to control business assets. Environmental conditions are harsh at the network edge, making reliable, resilient and robust solutions vital.

Edge Networks Solutions have been developed by Westermo to meet the demands of mission critical networks. WeOS software, robust hardware, industry approvals and network tools are the cornerstones of Edge Network Solutions and when combined they create the most resilient and robust solutions for any mission critical network.

Westermo's WeOS operating software delivers resilient networks that meet the specific needs of each application. Highly reliable Ethernet switches are designed and tested to operate in extreme environments and run resilient network protocols, reducing the risk of network failure. A broad range of international approvals and certifications ensures Westermo devices can be installed in specific industry applications. Network tools simplify installation and maintenance and enable secure remote connections to the network edge from anywhere in the world.

WeOS



Continuously upgraded software solution incorporating functions to create resilient networks...

Robust hardware



...with the most reliable hardware on the market, designed for the most extreme environments...

Approvals



...tested by external test houses to meet industrial EMC, isolation, vibration and shock standards...

Network tools



...configured and controlled using 'made easy' software tools enabling increased availability and security.



WeOS

— Westermo Operating System

Westermo delivers resilient network solutions through its WeOS operating system, which is at the heart of our range of robust hardware platforms. WeOS provides an extensive suite of IP networking standards allowing resilient and flexible networks to be created. Fast recovery times and highly reliable solutions can be achieved even in very complex networks. WeOS also provides multiple layers of security to provide protection against cyber-attacks at the network edge.

Simple and flexible configuration

Made Easy is at the core of the WeOS development, which is why we ensure our intuitive command-line interface is logical and our web interface is simple to use.

WESTERMO Robust Industrial Data Communications —Made Easy

v4.13.1 |

Status

- System
 - Summary**
 - Details
 - Environment
- Interface
- Port
 - Port Access
- L2 Redundancy
 - IGMP
 - VRR
- Route
 - LLDP
- Configuration
- Maintenance
- Tools
- Lognet
- Help

System Overview

Logged in as **admin** from 192.168.2.22

Hostname	
Location	
Running Services	DNS Proxy, IGMP, IPConfig, LLDP, RSTP (root), SNMP, SSH
Uptime	0 days, 0 hours, 0 minutes, 30 seconds
Date	Wed Feb 12 09:58:17 2014
Alarms	None
Interfaces	vlan1, 192.168.2.200 / 24



WeOS

– Continuously improved

WeOS is constantly being developed to ensure it matches up to the needs of our rapidly changing world. This means that we can introduce additional IP protocol support as well as unique problem solving functionality for existing customers across all new platforms.

Constant code validation

Constantly updating software can be a risk, so our research and development team operates with a very structured methodology. Automatic code validation and regression testing is carried out every day, ensuring a thorough verification of basic functionality after every software change.

Documentation

With more functionality being added continuously, documentation is important. The WeOS management guide is a comprehensive manual with explanations, examples and detailed instructions to the many features of WeOS.

Download the latest version of WeOS for free at www.westermo.com



Industry knowledge

Our team of developers can draw from 40 years of industry knowledge to ensure that WeOS provides unique automation solutions.



Enhanced interoperability

Open source code is utilised to provide enhanced interoperability with both Westermo solutions and other networking equipment.

The most robust an

Long life and reliability

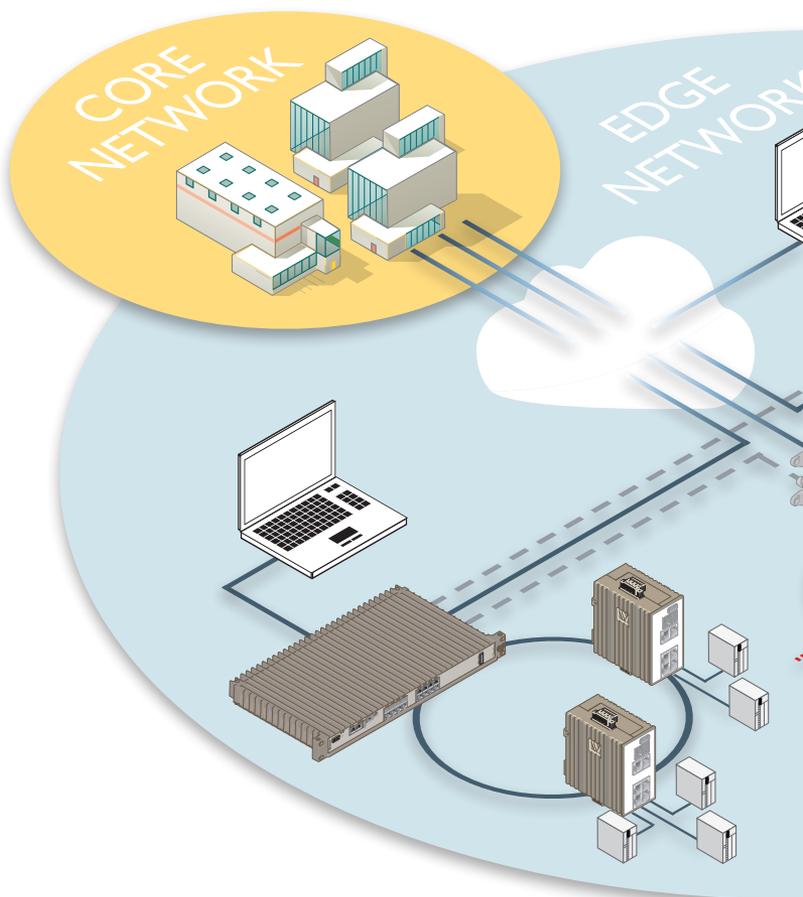
Data networks are expected to run faultlessly for many years. Maintenance is expensive at remote sites. High MTBFs and extended service life are therefore critical.

Legacy equipment

There is a significant amount of serial based technology installed within existing network infrastructure systems. Many of our products includes a serial interface and WeOS provides an easy way to migrate legacy equipment to the high speed Ethernet and IP solutions.

Compact design

All Westermo hardware is designed to be as compact as possible. Our Lynx series of switches are the most compact switch of its type on the market making it easy to incorporate into machines and existing applications.



Robust industrial routing switch

Robust routing performance and many different port configurations.



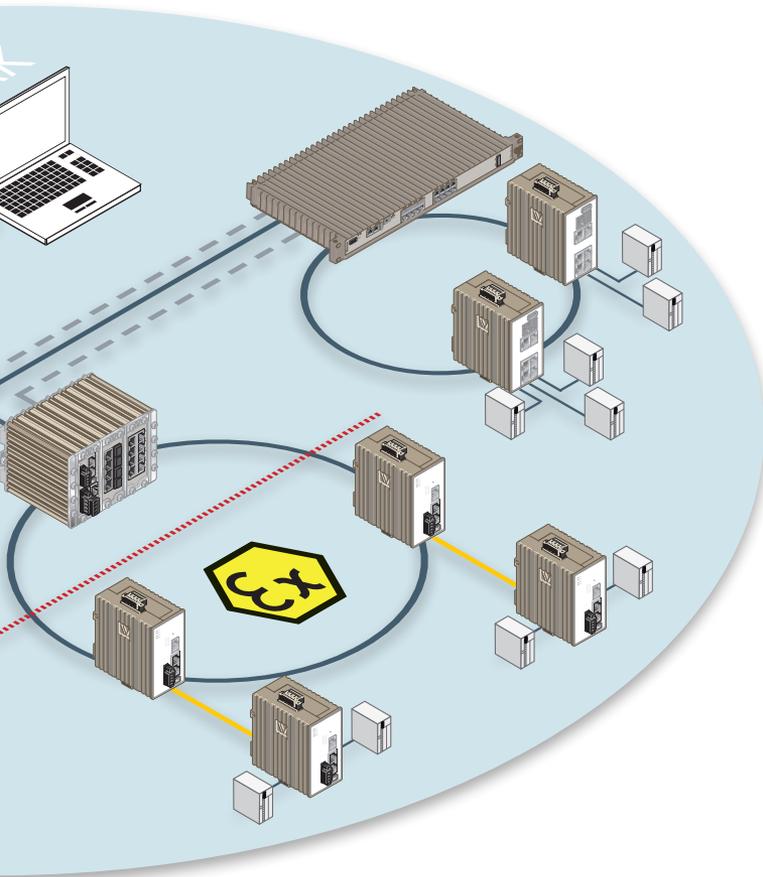
Compact industrial switch

Offering advanced switching and routing capability, and legacy serial connectivity, all in an extremely compact housing.



Industrial broad
The world's first VDSL

and reliable hardware



One box solution

Westermo can offer hardware with serial, Ethernet, security and layer 3 routing functionality in one single unit. Reducing the number of installed units in a network improves the overall system MTBF.

Robust hardware

Westermo products are designed and tested to operate at extreme temperatures and in environments with high levels of vibration and EMC interference. Westermo products can cold start at -40°C and operate up to 70°C with no cooling holes that would allow the ingress of dust.

Energy efficient

Westermo products have very low power requirements, which results in a reduction in running cost over the life of the unit and helps companies reduce their power usage.

alcon



band router
2 remote access router.

 **Viper**



Ultra robust routing switch

Designed to meet the stringent requirements to operate on trains, these switches are the pinnacle of robust design.

 **Wolverine**



Industrial Ethernet extender

Extend networks over extreme distances using existing telecoms cables.



Quality and industry approvals

To ensure the highest quality products, Westermo has a state of the art industrial electronics manufacturing facility in Sweden. To maximise product reliability, extensive testing is carried out at many stages of the manufacturing process.

We are constantly working to gain certification of our products for use in various industrial environments. New approvals and certifications are added all the time, please visit our website for the latest information.

www.westermo.com

- ⌘ Manufacturing to IPC-A-610 under ISO9001-2008 QMS
- ⌘ Solder Paste Inspection and Automated Optical Inspection
- ⌘ X-ray examination and PCB testing
- ⌘ Functional testing
- ⌘ Burn-in testing to EN-50155



EN 61000-6-2
Industrial Immunity



EN 61000-6-3
Residential Emission



EN 61000-6-4
Industrial Emission



EN 50121-4
Railway Trackside



EN 50155
On Board Rail



EN 55022
ITE Emission





WeConfig – Networking made easy

WeConfig is a network configuration management tool that makes it easy to configure single or multiple Westermo devices. WeConfig simplifies both the initial installation of a network and ongoing maintenance once commissioned.

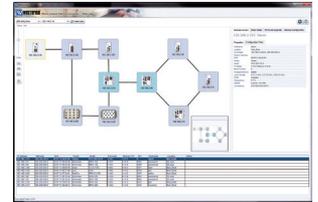
Easy replacement and reconfiguration

Project files store all associated backup files and network topology information. These enable fast and easy replacement and reconfiguration of a damaged switch in the field. A new device can be installed and will automatically be discovered on the network by WeConfig. The configuration file of the old unit can simply be restored from the project file and the network is repaired.

Configuration, monitoring and diagnostics

To achieve network resilience, Westermo devices are automatically reconfigured. In the event of a network failure processes running on the network are therefore unaffected. Because processes are not interrupted, the user might not be aware that a network failure has occurred. WeConfig graphically displays the failed link as well as record of the time.

Download WeConfig for free at www.westermo.com



- ⌘ Rapid configuration of new network components saving time
- ⌘ Network monitoring and diagnostics
- ⌘ Easy maintenance of network components
- ⌘ Network configuration information readily available



WeConnect

– Secure remote access

WeConnect is a networking tool that enables secure remote connections to the network edge. Strong encryption techniques make it possible to remotely access any device on the network using a PC, smartphone or tablet. This allows the network to be managed from anywhere in the world, resulting in significant time and cost savings.

Easy set up

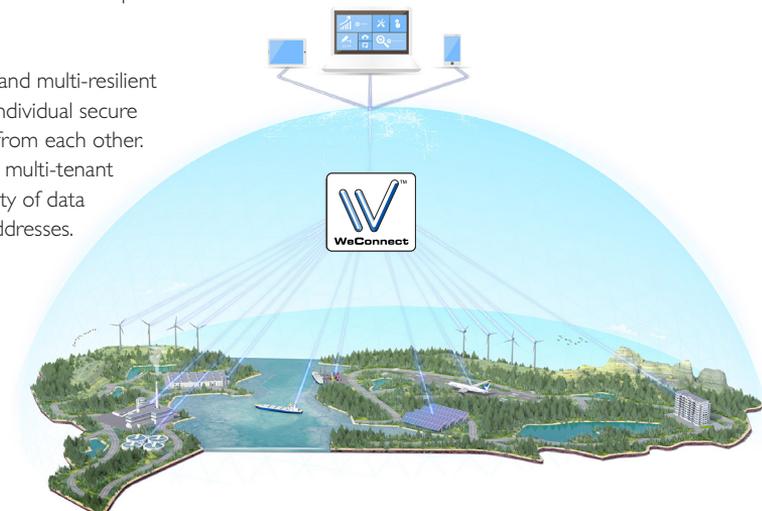
WeConnect works with any type of internet connection and there are no limits to the type of media used including ADSL, VDSL2, fibre, cellular or even satellite. WeOS products connect to WeConnect automatically and there is no need for public IP-addresses or special SIM cards.

Reliable connectivity

WeConnect is a very scalable and multi-resilient solution, designed to provide individual secure networks completely isolated from each other. WeConnect is therefore not a multi-tenant solution, removing the possibility of data leakage or restrictions on IP-addresses.

**Contact Westermo
to find out more.**

- ⌘ Secure remote access to the network edge
- ⌘ All that is needed is a connection to the internet
- ⌘ Designed to solve common industrial networking problems
- ⌘ Reliable connectivity when needed





Swedish engineering excellence

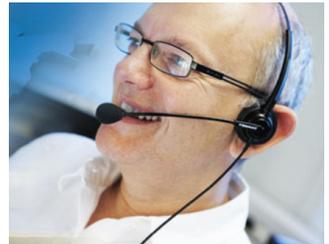
Westermo provides a full range of data communications solutions for demanding applications in industries that include transport, water and energy markets. Since 1975 we have been at the forefront of technological development and continue to push the limits of what is technically possible.

Westermo offers the highest levels of service to help customers to select, configure and install the right solution for their needs. Our experience and expertise goes far beyond our own product range, so that regardless of whether your installation is in a substation, water treatment plant or alongside a railway, we understand the specific demands and are able to provide the right advice.

To provide the best support globally, we have local presence through our authorised distributors and Westermo offices in more than 35 countries worldwide.

Made in Sweden

To ensure the highest quality, all Westermo products are manufactured in our own state of the art industrial electronics manufacturing facility in Sweden.





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