

Goodmill Systems w24h-S Managed Multichannel Router

Goodmill w24h-S router is the new member of the Goodmill Systems' w24h router family. It has been further developed from w24e-S and offers a magnitude of higher capacities and more advanced functionalities than its predecessor with cutting edge processor technology. The router is also 5G ready.

The Main Benefits

Highest possible data connection availability

- Combining the availability of up to four freely selected networks for broadband access
- Load sharing

Maximizing data connection capacity

- Flexible network usage
 - Prioritize a network or
 - Always choosing the best performing link
- Supports networks slicing for operator specific prioritization.
- Load sharing possibility

Completely secure

- The connection is always protected by up-to-date VPN techniques
- Each network connection has an independent VPN, firewall, and traffic priority (QoS)
- OTA remote manager used for configurations and updates

Cost-efficient

- Subscription costs can be optimized using alternative links
- Fast to install and operate due to OTA approach

Future proof

- Supports a wide variety of wireless network technologies e.g. LTE/3G/2G, LTE450, CDMA and WLAN by embedded mobile terminals. 5G ready.
- Easy to upgrade for new networks with just embedded mobile terminal change

Optimized operational costs

- Comprehensive OTA remote management, diagnostics and configuration

Goodmill w24h-S brings revolutionary wireless broadband connectivity to the reach of mobile public safety and security (PSS) organizations.

Law enforcement agencies, fire departments and emergency medical service units need increasingly a constant flow of information to perform their duties efficiently.

With Goodmill w24h mobile multi-channel routers they can create reliable, fast, and secure broadband data connection between the HQ and the mobile units that meet current and future data connectivity demands.

Goodmill Systems Routers are always implemented with the best-in-class remote management system that fulfills the hardest requirement for Over-The-Air (OTA) configurations. You can manage, monitor, and maintain thousands of devices with the same tool.



W24h-S PRODUCT FEATURES

Power supply	10-30V DC	
Power Consumption	Max. 30W	
Temperature Range	-30°C to 60°C operative -40°C to 70°C storage	
LAN interface	Options to be used <ul style="list-style-type: none"> • 2 x GbE 10/100/1000 • WLAN 802.11 b/g/n 	Connector RJ-45 SMA-F (x2) MIMO
Compliance	IEC60950-1:2005 / EN60950-1:2006	
Selectable WAN interfaces	Options (max. 4) with MIMO <ul style="list-style-type: none"> • LTE radio modem • CDMA radio modem • LTE 450 radio modem • WLAN 802.11 b/g/n • 10/100/1000 GbE • USB connected devices 	Connector SMA-F (x2) MIMO SMA-F SMA-F (x2) MIMO SMA-F (x2) MIMO RJ-45 USB Type A
WLAN Access point	802.11 b/g/n, MIMO supported.	
WLAN Topologies	Relay Forward, Mesh	
GPS	Positioning information sent to a location system by using NMEA protocol. Antenna connector SMA-F.	
IP addressing	Fixed or dynamic with DHCP, NAT	
QoS functionality	Hierarchical Token Bucket algorithm applied separately for all priority level connections Absolute bandwidth can be specified, classification by L2-L4 characteristics. Network Slicing technology supported	
VPN functionality	Supported on all priority level WAN links <ul style="list-style-type: none"> • IPSec from fixed IP address • IPSec from dynamic IP addresses Encryption and key interchange functions supported. (e.g.): <ul style="list-style-type: none"> • RSA, ECDSA • IKEv2 • HMAC SHA-2 up to 512 bits • AES-256, AES-GCM • DH groups 1,2,5,14,15,16, 22, 23 and 24 • DH elliptic curve groups 19, 20 and 21 	
Mobile IP	Supported by integrated Mobile IP client in router and by Mobile IP server	
Firewall	Independently working for all network Interfaces <ul style="list-style-type: none"> • Stateful inspection • SNAT, DNAT, Port forwarding 	
Firmware upgrade	Locally or remotely over-the-air online. Reversible (Revert to previous stored version)	
Network Management	Configuration, monitoring and firmware management of routers <ul style="list-style-type: none"> • HTTPS protocol for safety and security • Runs always on the active WAN connection 	
Dimensions	H x W x L: 70 x 210 x 246mm (2,7" x 8,3" x 9,7") Weight < 2kg (<4.4lbs)	

OTA MANAGEMENT SYSTEM

Installed devices are constantly sending event and status messages to the management server. The server maintains a status view where service personnel can always monitor the status of the devices. This logged information can also be used to create various reports. For example, device usage and WAN link uptime reports can be created to monitor the total availability of the services.

If there is a fault or malfunction, the maintenance personnel can also find it immediately. A sophisticated remote management tool reduces service outages and unnecessary service visits to the remote sites. Sometimes a new functionality is introduced in an updated embedded software version. With remote management, you can quickly, easily, and securely download the new software to the installed devices without costly site visits.

Goodmill routers always communicate with the OTA management server using a secure HTTPS protocol.

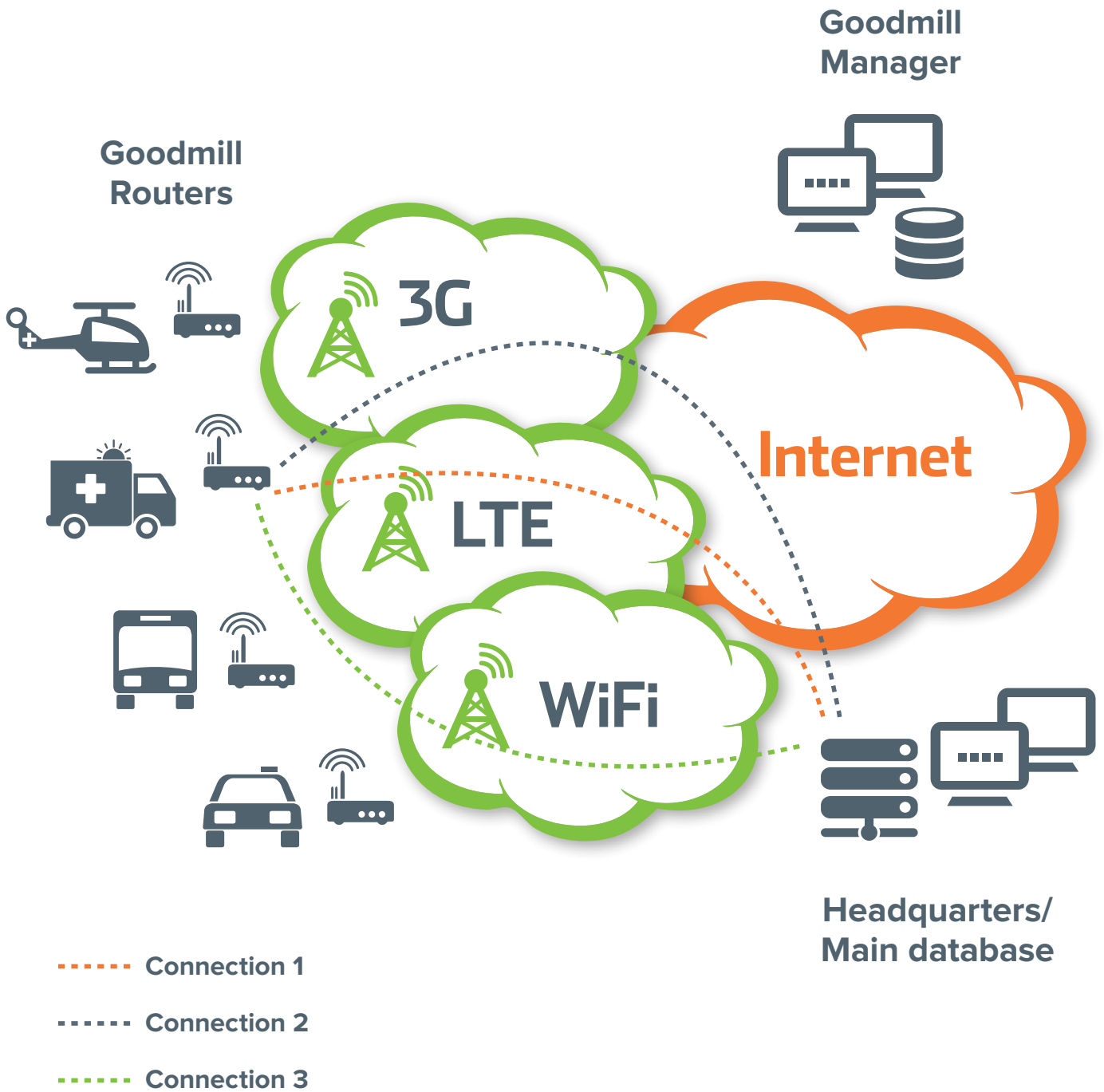
Router and management server authenticate each other before communication. This ensures that the management traffic is always protected even when transported over a public network. Management sessions are also protected with individual usernames and passwords. Goodmill routers always initiate the management connection. For this reason, the devices do not need public IP addresses even when located behind a third party firewall.

OTA Manager Main Features

Creating new devices and configurations is a straightforward process that can be carried out well before the physical installation. Field personnel do not need any skills on routing, firewalls, VPNs, etc. since dedicated specialists have created the necessary configurations in the system database, and they will be automatically transferred to the devices during physical installation.

OTA MANAGER FEATURES

Full OTA configuration capability	<ul style="list-style-type: none">• Management channel always on using any WAN link• Networking parameters• Firewall• WAN selection criteria• QoS• VPN parameters
Monitoring	<ul style="list-style-type: none">• Status information• Statistics• Trends• Faults
Secure router installation and replacement	Encrypted installation and replacement key
Integration to higher-level management systems	Socket for SNMP queries and traps
Physical Memory	6 GB RAM
Hard Discs	Mirrored 300 GB
Protected Power Source	Yes
Linux Software	CentOS7, Ubuntu



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 755919

Goodmill Systems Ltd.
 Tarvonsalmenkatu 17
 FI-02600 Espoo
 Finland

www.goodmillsystems.com

