GOODMILL
Always online

Goodmill Systems w24h-I
Managed Multichannel Router

Goodmill w24h-I router is the new compact and lowcost member of the Goodmill Systems' revolutionary w24h router family. It has been further developed from w24-I 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 two freely selected networks with GbE for broadband access

Maximizing data connection capacity
- Flexible network usage
    - Prioritize a network or
    - Always choosing the best performing link

Completely secure
- The connection is always protected by up-to-date VPN techniques
- Each network connection has an independent VPN and firewall
- 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 advanced over-the-air (OTA) management system

Future proof
- Supports a wide variery of wireless network technologies e.g. 5G/4G/3G/2G, LTE450 and WLAN by embedded mobile terminals.
- Easy to upgrade for new networks with just embedded mobile terminal change

Optimized operational costs
- Comprehensive OTA remote management, diagnostics and configuration

Product versatility
- Product is available in many variants upon request.
    - Dual-SIM operated
    - SIM cards inside the box

Goodmill w24h-I brings revolutionary wireless broadband connectivity to whereever truly reliable connectivity is a must.

Offices using cloud services, organizations with remotely monitored/controlled locations, pharmacies, PSS organizations and many other agencies can now trust their mobile network connectivity is always online.

With Goodmill w24h mobile multi-channel routers they can create reliable, fast, and secure broadband data connection between the HQ and the remote 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-I PRODUCT FEATURES

Power supply	5V DC
Power Consumption	Max. 15W
Temperature Range	-30°C to 60°C operative -40°C to 70°C storage

LAN interface	Options to be used Connector
	  • 2 x GbE 10/100/1000 RJ-45
	  • WLAN 802.11 b/g/n/ac, SMA-F (x2) MIMO
	     Access Point requires a free WAN slot

Compliance	IEC60950-1:2005 / EN60950-1:2006

Selectable WAN interfaces	Options (max. 2) with MIMO Connector
	  • Cellular radio modem • SMA-F (x2) MIMO
	     (incl. LTE, LTE 450, 5G NSA, 5G SA) • SMA-F (x2) MIMO
	  • WLAN 802.11 b/g/n/ac • SMA-F (x2) MIMO
	     (5GHz or 2.4GHz)
	  • 10/100/1000 GbE • RJ-45
	                               • USB Type A

WLAN Access point	802.11 b/g/n/ac (5 GHz or 2.4 GHz), 2x2 MIMO supported.
WLAN Topologies	Relay Forward
IP addressing	Fixed or dynamic with DHCP, NAT

Security	802.1X RADIUS authentication on Wi-Fi and Ethernet ports
	MAC filtering
	VLAN 802.1Q support
	IPSEC VPN for WAN and LAN connections
	Firewall
	  • Independently working for all network Interfaces
	  • Stateful inspection
	  • SNAT, DNAT, Port forwarding

QoS functionality	Possibility to different QoS schemes

VPN functionality	Supported on all priority level WAN links
	  • IPSec from fixed IP address
	  • IPSec from dynamic IP addresses
	Encryption and key interchange functions supported. (e.g.):
	  • 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

Firewall	Independently working for all network Interfaces
	  • 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
	  • HTTPS protocol for safety and security
	  • Runs always on the active WAN connection

Dimensions	H x W x L: 44 x 210 x 150mm (1.75" x 8.3" x 5.9") Weight < 1.5kg (<3.3lbs)

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.

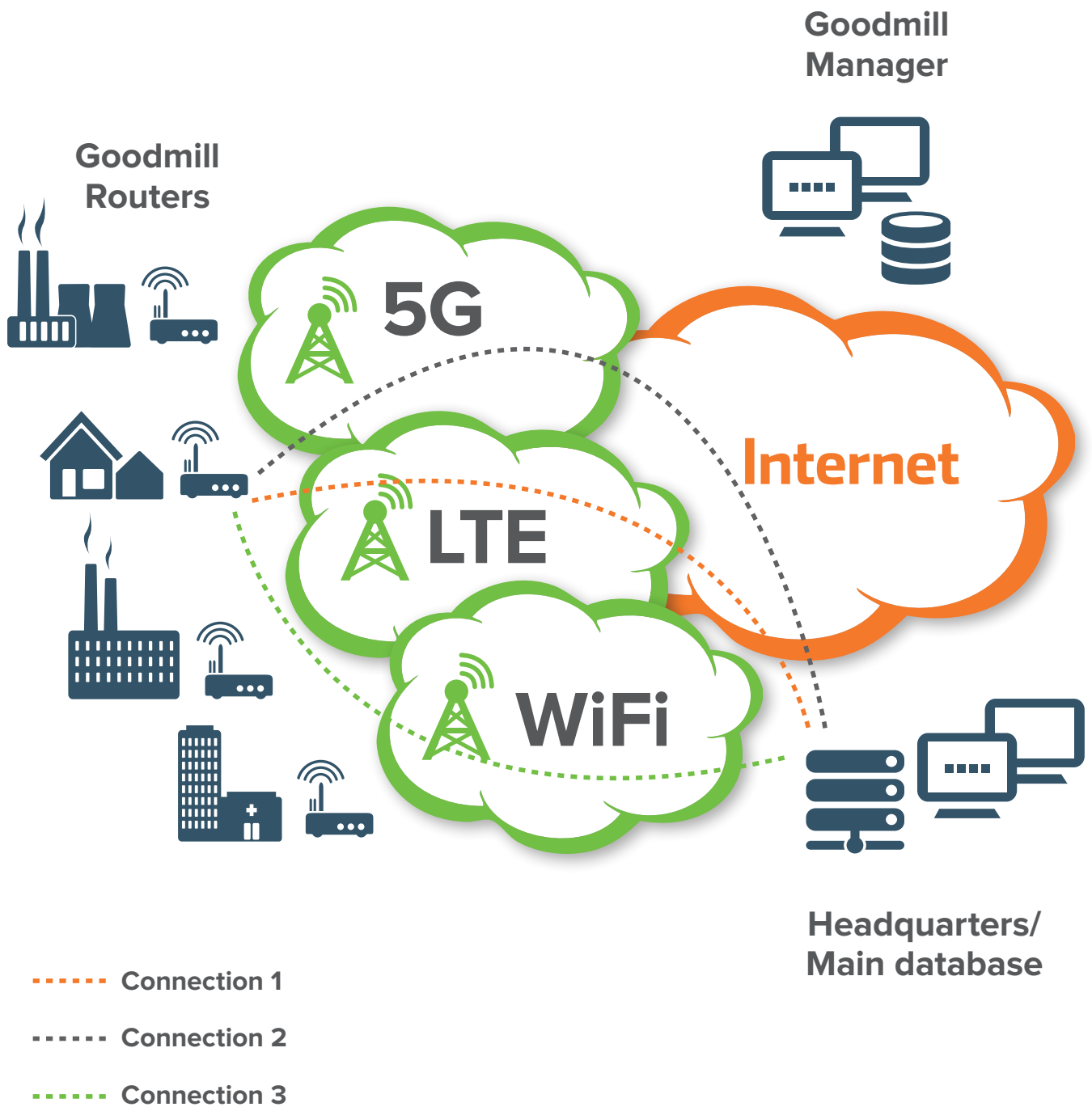Goodmill routers always communicate with the OTA management server using a secure HTTPS protocol.

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	• Management channel always on using any WAN link • Networking parameters • Firewall • WAN selection criteria • QoS • VPN parameters
Monitoring	• Status information • Statistics • Trends • Faults
Secure router installation and replacement	Encrypted installation and replacement key
Physical Memory	6 GB RAM
Hard Discs	Mirrored 300 GB
Protected Power Source	Yes
Linux Software	CentOS7, Red Hat

Goodmill Routers

Goodmill Manager

5G

LTE

WiFi

Internet

Headquarters/ Main database

----- Connection 1

----- Connection 2

----- Connection 3

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