RICON

CASE STUDY: wireless surveillance

RICON Mobile provides hardware (3G/4G routers) and software (RMS Ricon Management System) for data connectivity in wireless surveillance applications.

The growing threat from crime needs to ensure public safety and manage traffic has led to a demand for high-quality surveillance. Video security monitoring needs to be flexible, scalable and future-proof, with the capability of easily expanding to accommodate the ever changing environments. Digital IP-networked video provides a unique set of tools for solving today's surveillance applications.

Using mobile wireless networking technologies for data connectivity gives you freedom to change your cameras locations any time. Furthermore mobile wireless network is also cost effective in case there is no landline available in the location you would like to put your monitoring cameras. No expensive investment in wire network infrastructure and its maintenance is needed. The cellular signal coverage is all you needed.

RICON wireless networking solution combines all most advanced wireless surveillance projects and provides secure, reliable, flexible and cost effective networking solutions for monitoring IP cameras. RMS Ricon Management System, working together with RICON routers as a part of the RICON solution, monitors connectivity on the mobile network, informs about network availability, signal strengths also controlling devices remotely.

How it works

Wired connection
Wireless connection

IP camera
IP camera
RICON router

Celluar network 1
Celluar network 2

MP APN

Firewall

VPN Gateway

Application server
Router management server
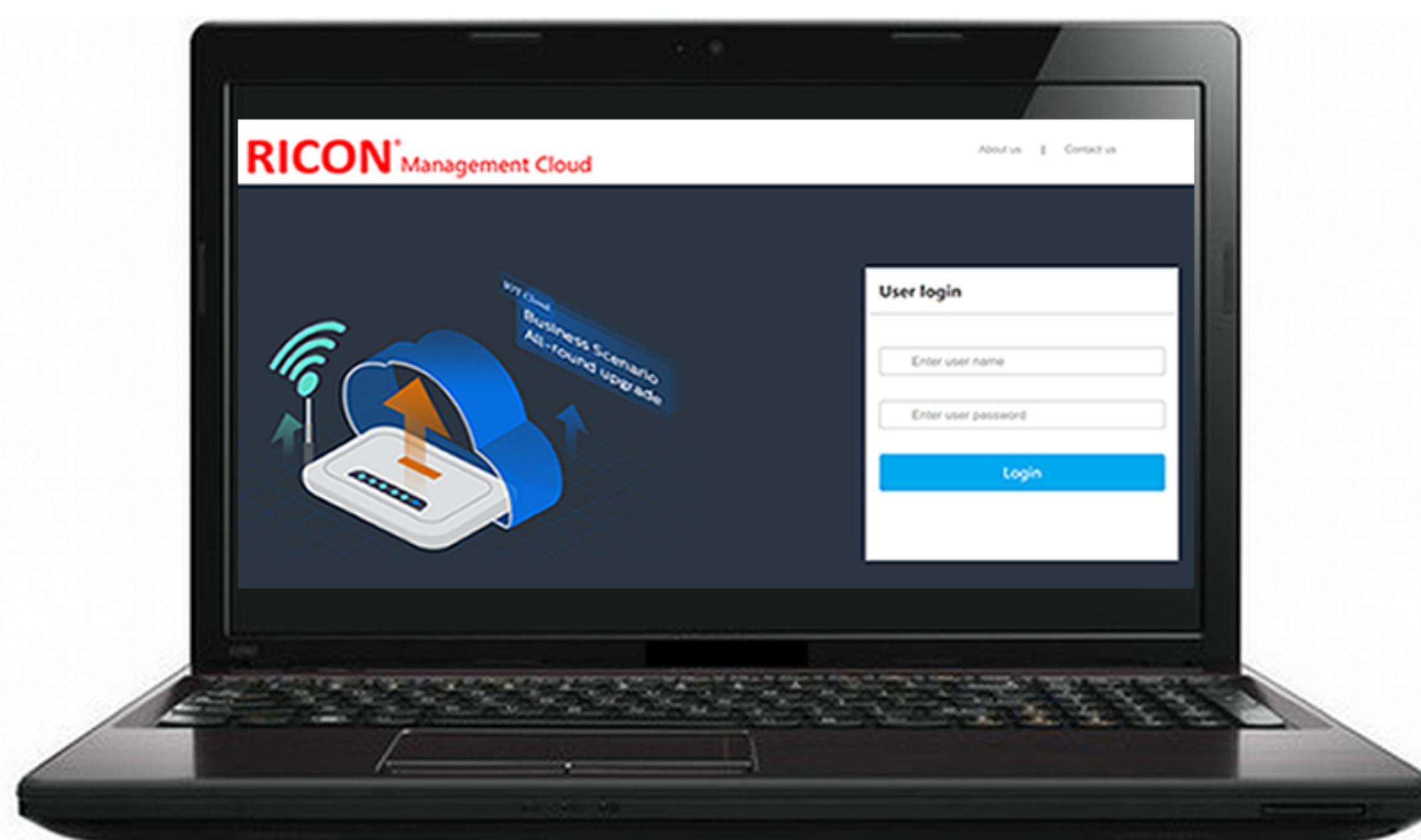
RICON solution for wireless surveillance applications

1. hardware:
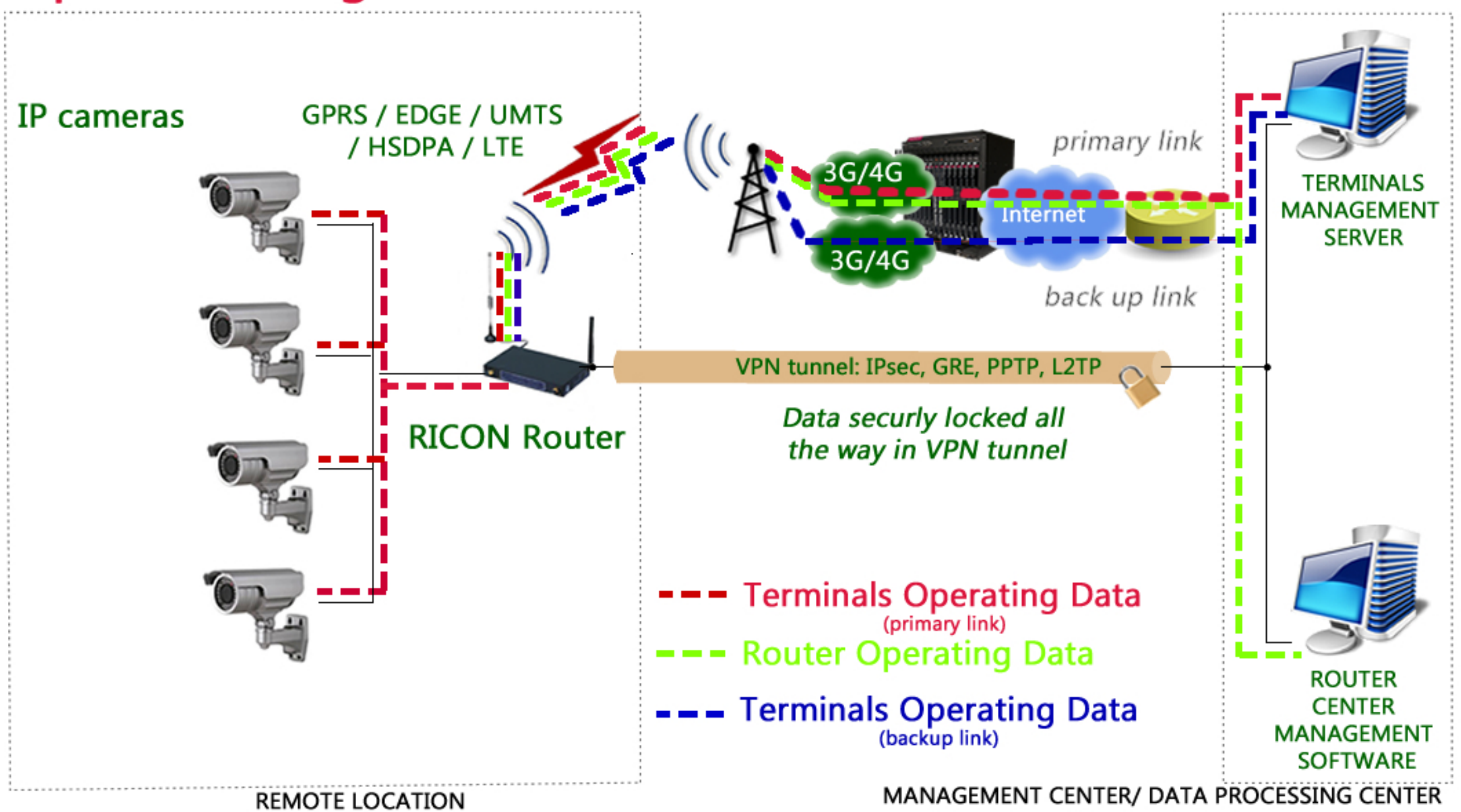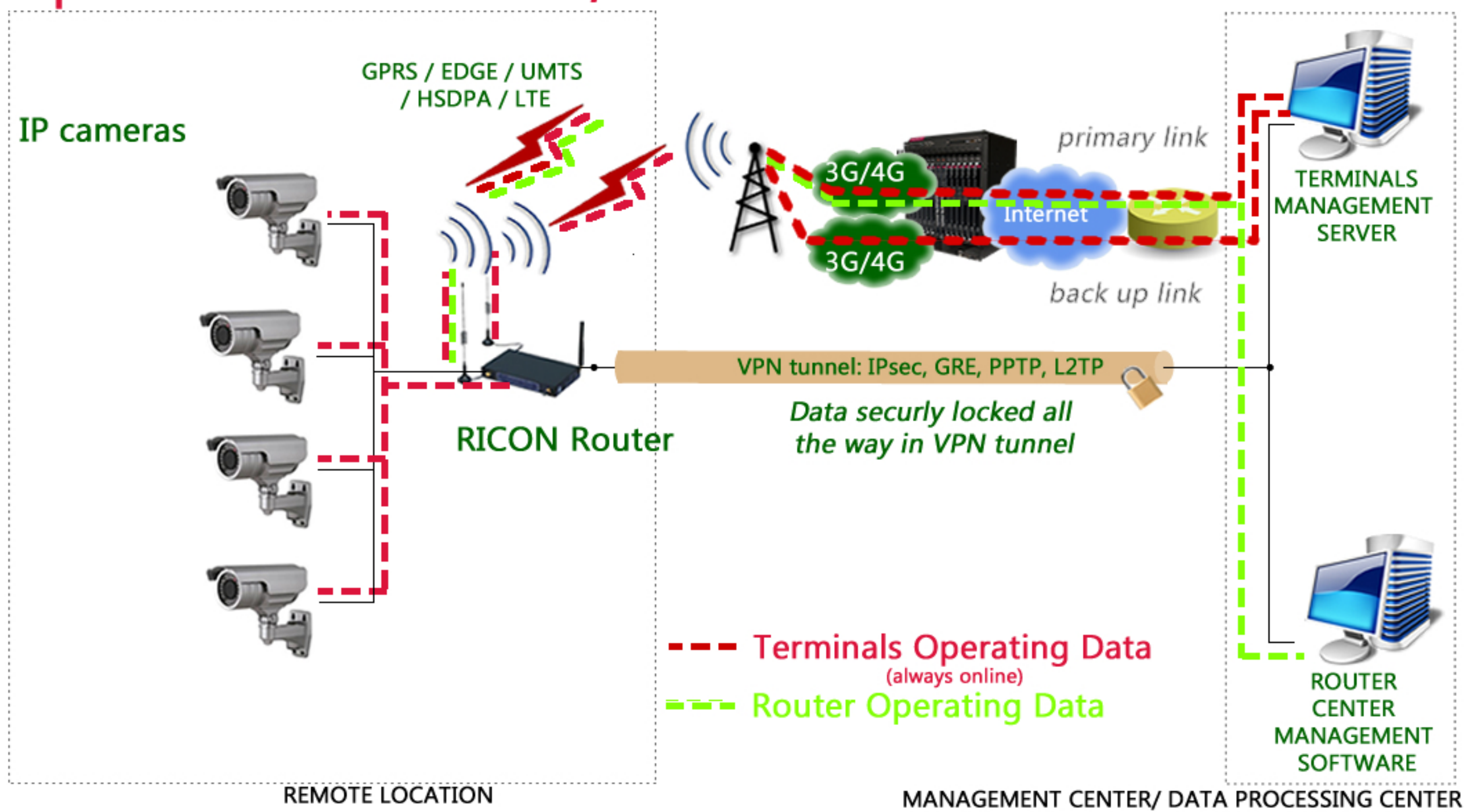RICON 3G/4G routers

2. software:
RMS Ricon Management System

RICON Management Cloud

User login

Login

CE 0678 RoHS

VPN | Dual RF-Module | Dual SIM | Wi-Fi Optional | GPS optional | LTE | Cellular/WAN link backup | NAT Virtual server | WAN/PPPoE | WPS

RMS

Option 1: single module/ single SIM

IP Cameras

GPRS / EDGE / UMTS / HSDPA / LTE

3G/4G | Internet

primary link

back up link

RICON Router

VPN tunnel: IPsec, GRE, PPTP, L2TP

Data securly locked all the way in VPN tunnel

- - - Terminals Operating Data
- - - Router Operating Data

REMOTE LOCATION

TERMINALS MANAGEMENT SERVER

ROUTER CENTER MANAGEMENT SOFTWARE

MANAGEMENT CENTER/ DATA PROCESSING CENTER
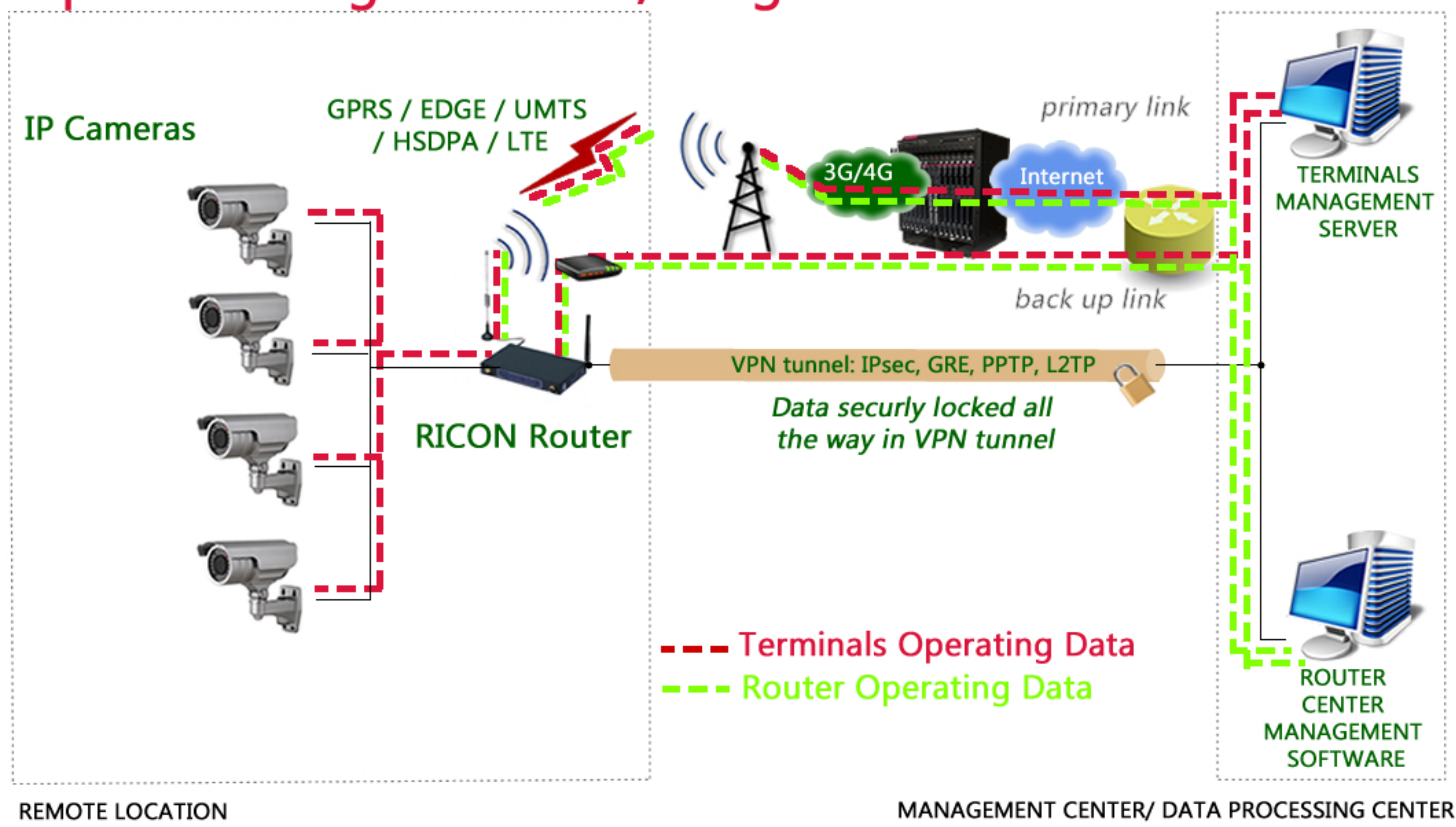
Option 2: single module/ dual SIM

IP cameras

GPRS / EDGE / UMTS / HSDPA / LTE

3G/4G | Internet | 3G/4G

primary link

back up link

RICON Router

VPN tunnel: IPsec, GRE, PPTP, L2TP

Data securly locked all the way in VPN tunnel

- - - Terminals Operating Data (primary link)
- - - Router Operating Data
- - - Terminals Operating Data (backup link)

REMOTE LOCATION

TERMINALS MANAGEMENT SERVER

ROUTER CENTER MANAGEMENT SOFTWARE

MANAGEMENT CENTER/ DATA PROCESSING CENTER

Option 3: dual module/ dual SIM

IP cameras

GPRS / EDGE / UMTS / HSDPA / LTE

3G/4G | Internet | 3G/4G

primary link

back up link

RICON Router

VPN tunnel: IPsec, GRE, PPTP, L2TP

Data securly locked all the way in VPN tunnel

- - - Terminals Operating Data (always online)
- - - Router Operating Data

REMOTE LOCATION

TERMINALS MANAGEMENT SERVER

ROUTER CENTER MANAGEMENT SOFTWARE

MANAGEMENT CENTER/ DATA PROCESSING CENTER

RICON

Portfolio of RICON products and services enables to deploy secure and robust wireless network. Embracing connectivity usuing wireless 3G and 4G technologies our Customers benefit from reliable network even in the most remote, hazardous locations. RICON team cooperates closely with Customers to provide them with a most suitable application. RICON has experience and know-how which we would like to share with you.

RICON routers and management platform major features are specially designed to meet multiply requirements of the wireless surveillance projects:

- Dual SIM functionality enable seamlessly alternative between two networks when one of the network signal is poor or enable to switch upon desire to other network with flexible switching time,
- Dual GSM module enable persistent network connectivity with no break in time during the network switch,
- Guaranteed security and privacy in all the transactions: VPN support, GRE over IPSec, IPsec over PPTP/L2TP,
- Safety mechanism to avoid unintentional SIM cards manipulations,
- 4 x Ethernet 10/100M is available by default,
- NAT/PAT/Port forwarding dynamically and static options are available by default,
- Router supports DHCP Server, DHCP relay and other standard DHCP features by default,
- HTTPS/HTTP supports are available by default,
- Telnet and SSH accesses,
- SNMP agent,
- LTE/ HSUPA/HSDPA/UMTS/EDGE/GPRS Quadband support,
- RMA process for faulty routers,
- Configured via GUI and remotely via RMS Ricon Management System,
- Centralized control for firmware upgrade available as a section of the RMS Ricon Management System,
- Centralized statistic collection to show router uptime, network attachment, signal strength and where possible latency and packet loss per device and per router group on RMS Ricon Management System,
- Centralized control for the configuration management and group based configuration.
- For this specific project all the routers can be delivered with a project related pre-configuration.

RMS Ricon Management System centralizes access to all remote nodes, giving the user ultimate management control over the hardware. RMS Ricon Management System provides full control over data transfer and network diagnostics of thousands of routers and mobile devices on the network. Remote accessibility to the RMS Ricon Management System from any location gives the user fingertip control over multiple devices allowing the user to assess, diagnose, manage, control and resolve any problem within a very short period of time. Platform has a major impact on the cost of ownership, allowing redistribution of other valuable resources.

Some of the RMS Ricon Management System features include:
- touchless installation by remote configuration,
- device grouping,
- batch remote configuration,
- scheduled remote configuration,
- scheduled remote firmware upgrade/downgrade,
- multiple simultaneous terminal configuration updates,
- setting customized SLA warning thresholds,
- SLA based live alarms,
- live connectivity information,
- live reports,
- terminals detailed data stream info,
- terminals detailed data stream reports for trend analyses,
- terminals alarms reports for trend analyses,
- more information
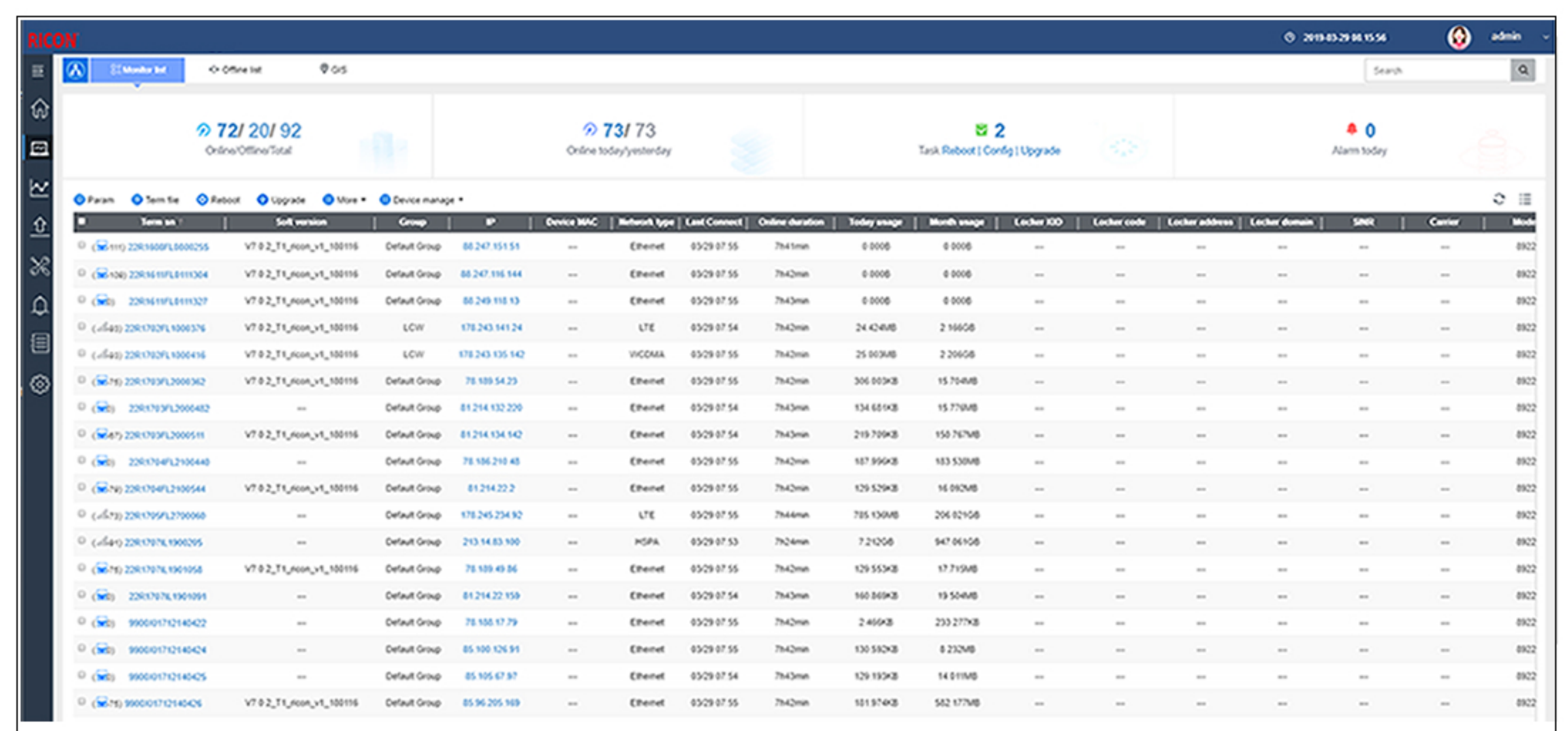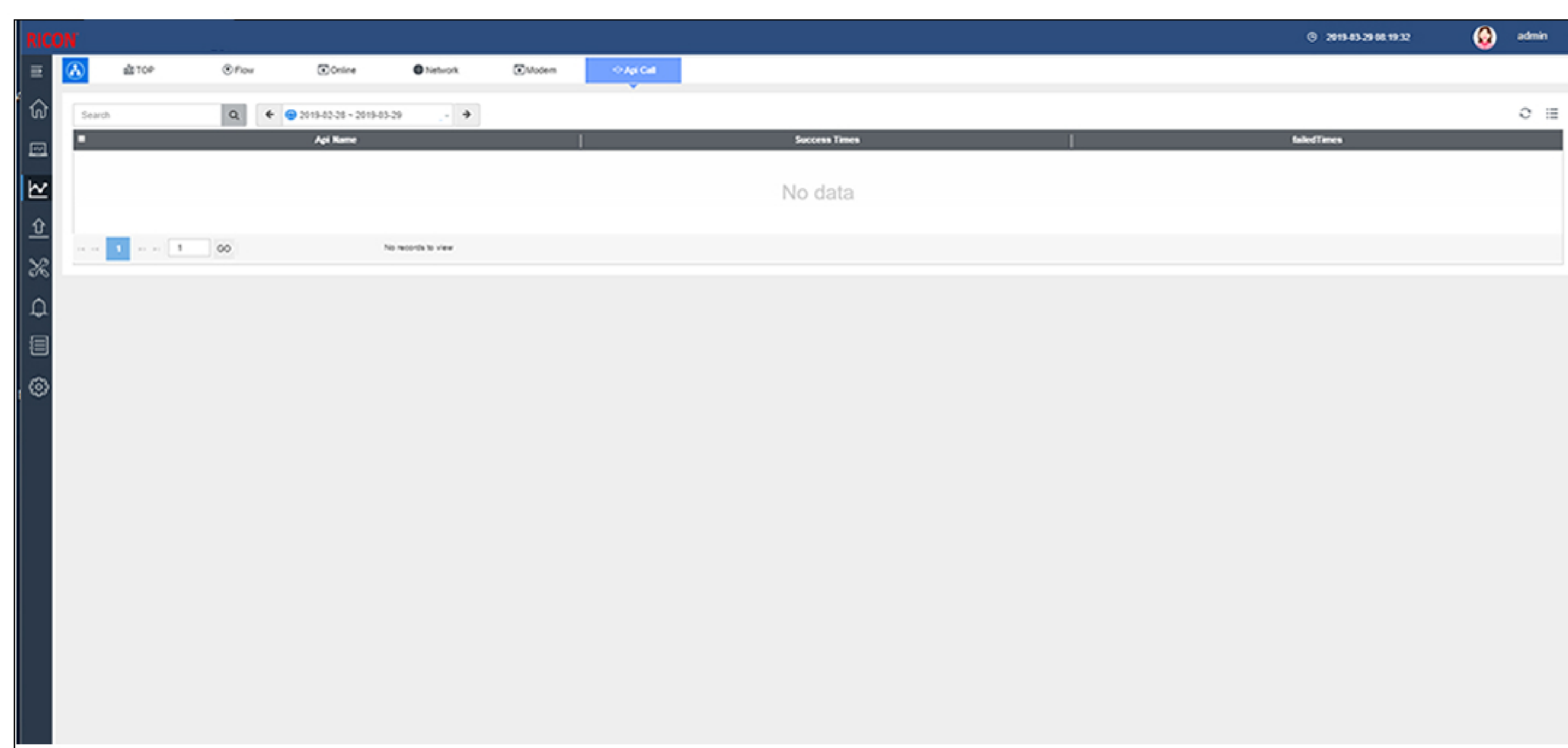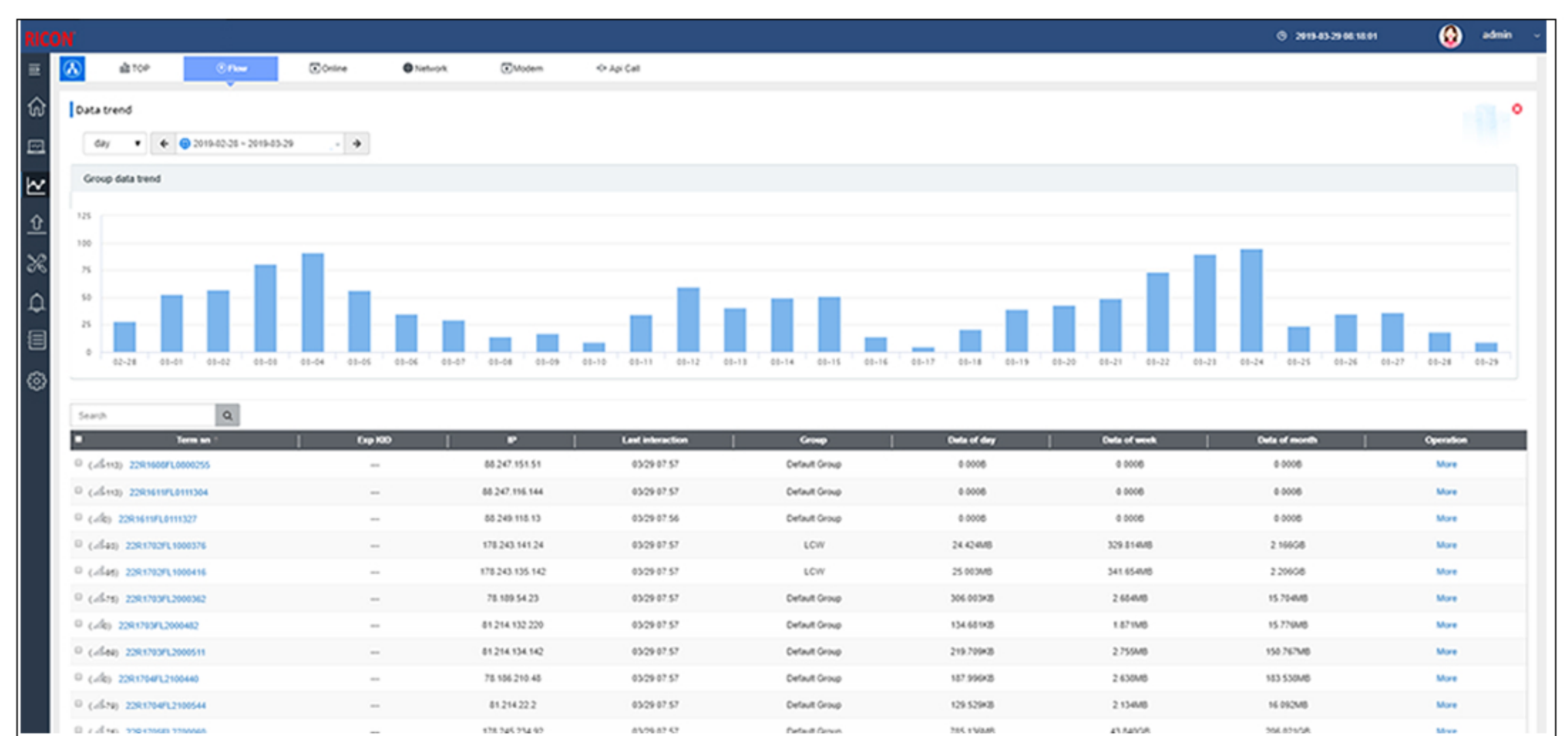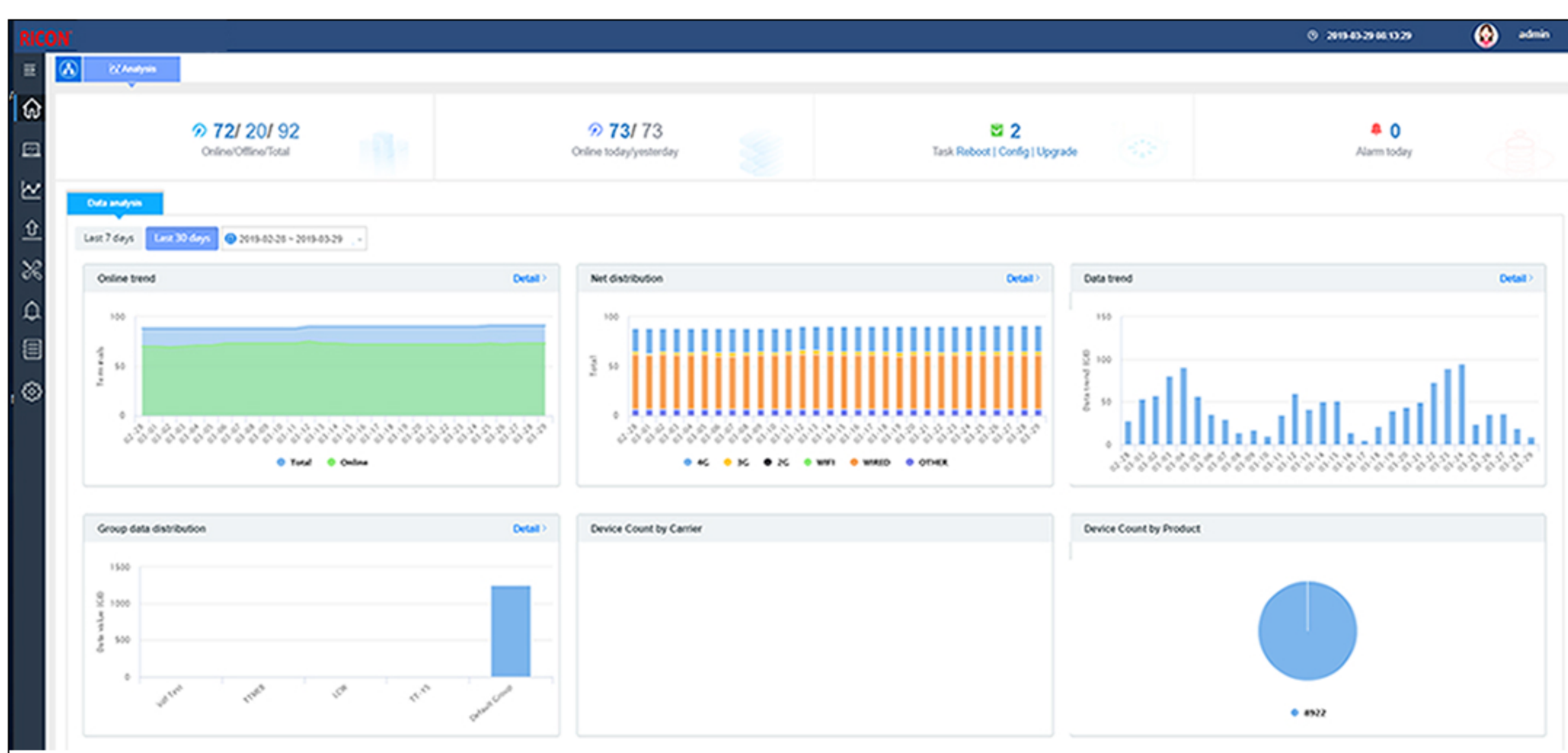
RICON cellular - VPN - 3G/4G routers

Specifications

- Dual module/WAN/Wi-Fi multiple network mode backup
- WAN port support PPPoE, static IP, DHCP client.
- LCP/ICMP/flow/heartbeat check, ensure network usability
- SNMP network management, NTP support
- Local & remote firmware update
- Local & remote log check
- Supports DNS proxy and Dynamic DNS (DDNS)
- Supports timing operation

Wi-Fi Characteristics

- Standard: IEEE 802.11b/g/n
- WEP, WPA and WPA2 encryption
- WPS key
- AP, Client, station, bridge mode support

VPN

- IPSec
- PPTP/L2TP client
- GRE/IPIP

Interfaces

- 4×10/100Mb LAN interface
- 1×10/100Mb WAN interface
- 1× RS-232 console port(RJ45)
- 2× SMA-K antenna interface
- 2× SMA-K antenna interface (Wi-Fi)
- 2× Standard SIM/R-UIM interface
- 1× Standard DC power interface

Status LEDs

- System
- Power
- WLAN (Optional)
- WAN
- LAN (LAN1~LAN4)
- RF
- NET

Routing Protocols

- Static route
- RIPv2/OSPF dynamic route

Ethernet Standard

- IEEE 802.3
- IEEE 802.3u

Firewall & Filtering

- IP packet/Domain/MAC filter
- NAT
- DMZ

Other

- 188mm x 121mm x 28mm
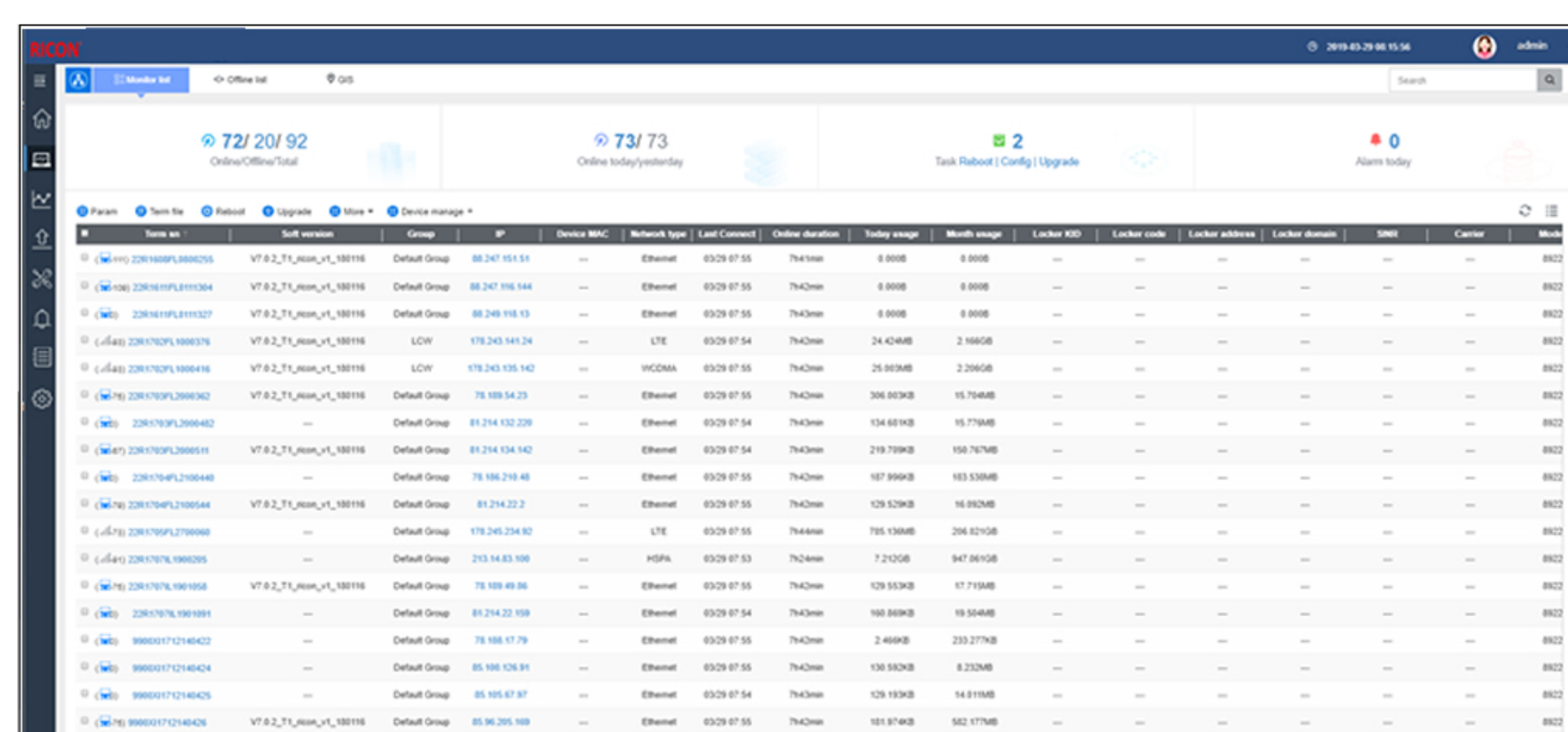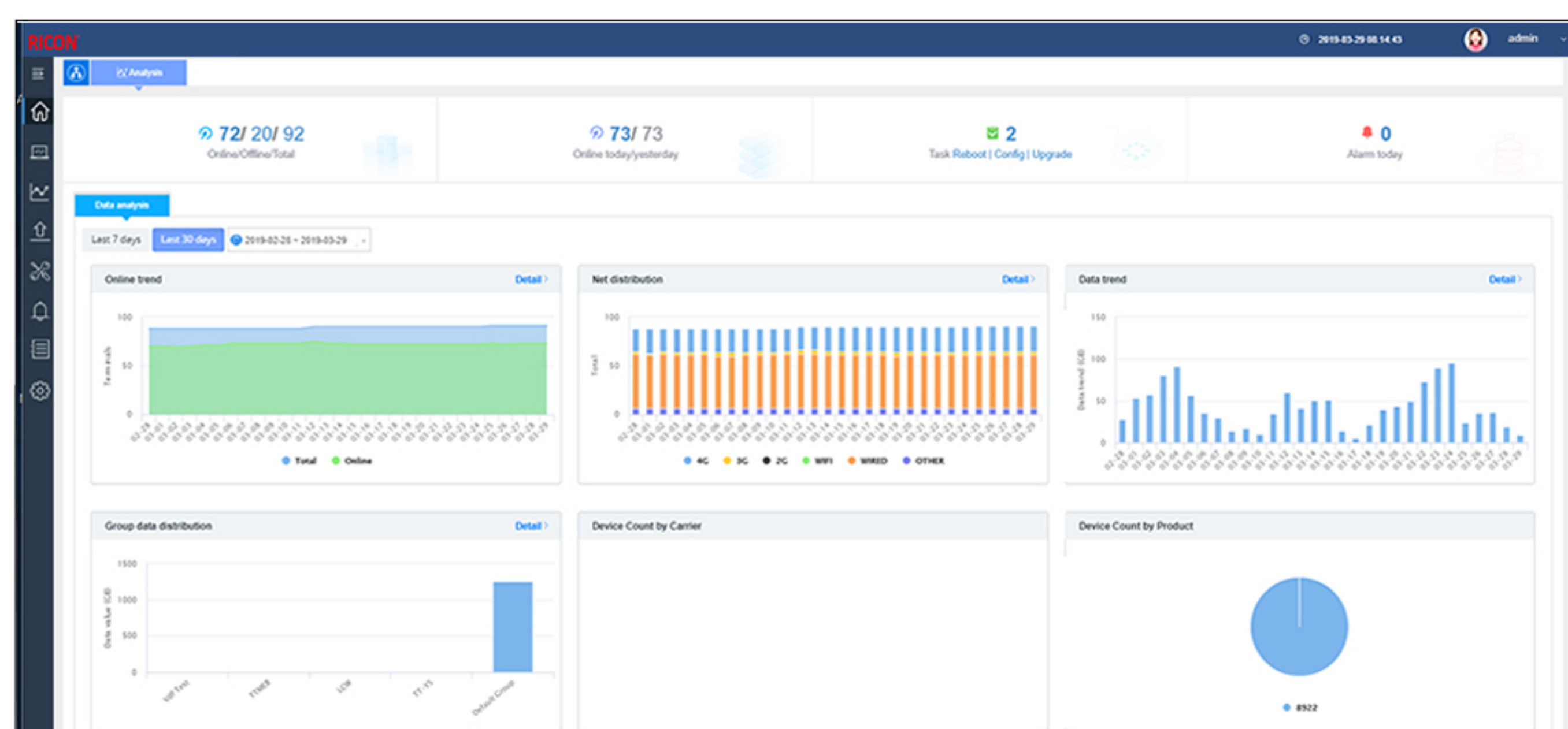- Weight: 580g
- Temperature: -30°C~+70°C

Device Management

- Local or remote web browser (IE v8 or above)
- CLI/Telnet command
- RMS Ricon Management System (optional)
- SSH config (optional)

Available Cellular Network

- LTE 800/900/1800/2100/2600MHz
- UMTS/HSPA+900/2100MHz
- GSM/GPRS 900/1800/1900MHz
- HSPA+/HSUPA/HSDPA/ WCDMA /UMTS
- 2100/1900/900/850/800MHz；
- EDGE/GPRS/GSM 1900/1800/900/850MHz
- HSUPA/HSDPA/UMTS 2100/1900/850MHz
- EDGE/GPRS/GSM 1900/1800/900/850MHz
- HSUPA/HSDPA/UMTS 2100/1900/900/850MHz
- EDGE/GPRS/GSM 1900/1800/900/850MHz
- CDMA 2000/EVDO Rev.A 800MHz
- CDMA 2000/EVDO Rev.A 800/1900MHz

188 mm

121 mm

28 mm

RMS Ricon Management System

provides full control of multiply 3G routers for diagnostics and maintenance of all the mobile devices on the network.

CE 0678 RoHS