

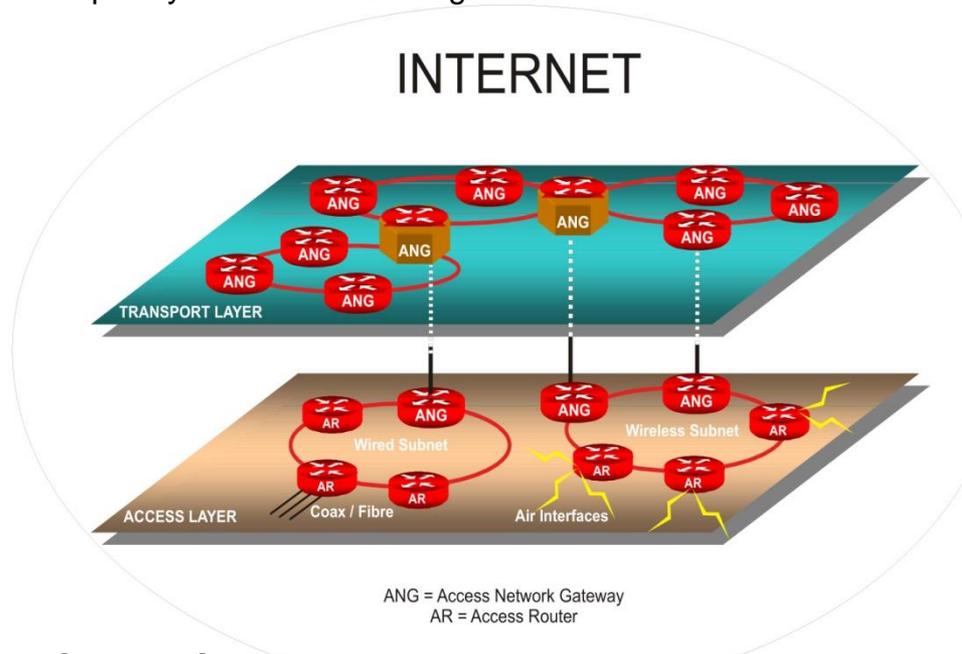


WIMO – CMIPR WIRELESS MOBILITY SOLUTIONS

Introduction

Mobile IP was developed before the widespread adoption of wireless LANs. The original intent was to permit a mobile terminal to communicate using its permanent home IP address while connected to a foreign wired network. Terminals that do not require a permanent IP address can simply borrow a temporary local address using DHCP.

The basic concept is to use a home agent to maintain a binding between the mobile terminal's home IP address and its current location. When a mobile enters a foreign subnet it obtains an IP address, called a care-of address, from that subnet's address space. The mobile registers the new care-of address with its home agent. Subsequently, all packets received for the mobile by the home agent are tunneled across the network using the care-of address.



However, this does not allow them to move between subnets. Since the introduction of wireless LANs, mobile IP has been extended to enhance the ability of the terminal to move between wireless subnets while maintaining its active connections.

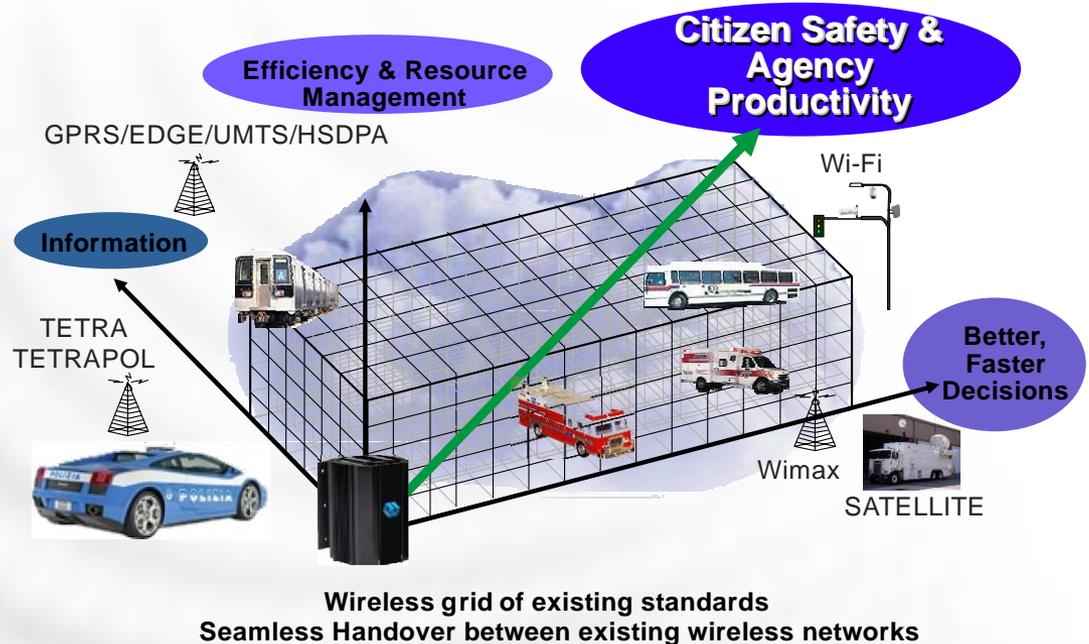
ComPlus Systems has designed and developed new solutions based on Mobile IP and is now able to offer advanced and stable Wireless MObility appliances through state of the art technology products.

WIMO – CMIPR Compact Mobile IP Router

All IP Layer

ComPlus has introduced a global Wireless Mobility solution, called WIMO, dedicated to suit the needs of integration between existing and next generation wireless networks. We are researching, developing, and implementing systems for:

- **Wireless mobile data networking for city, state, and federal agencies**
- **Wireless connectivity to fixed locations/applications**
- **Interoperability and integration between individual networks applications**
- **Integrated network security across the entire network**
- **Use of licensed and un-licensed wireless technologies**
- **Network foundation for future wireless technologies and applications**



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Applications

Public Safety (Police, Municipalities, Fire-Fighters and any public force)

- Dispatch
- Field reporting, premise history lookup
- Car-to-car messaging
- Auto Vehicle Location/Mapping
- Pictures, criminal database/history
- E-Ticketing
- Vehicle telematics
- Situational video transmitting and receiving
- Send/receive medical data
- Hazard material monitoring
- Emergency and disaster recovery

Private and Public Transports (Buses, Trams, Trains, Underground, Taxi, and any other transport vehicle)

- Centre-to-Vehicle messaging
- Vehicle-to-Vehicle messaging
- Vehicle Location/Mapping
- E-Ticketing
- Vehicle telematics
- Situational video transmitting and receiving
- Wireless broadband Internet services available to passengers of public transport vehicles on the move

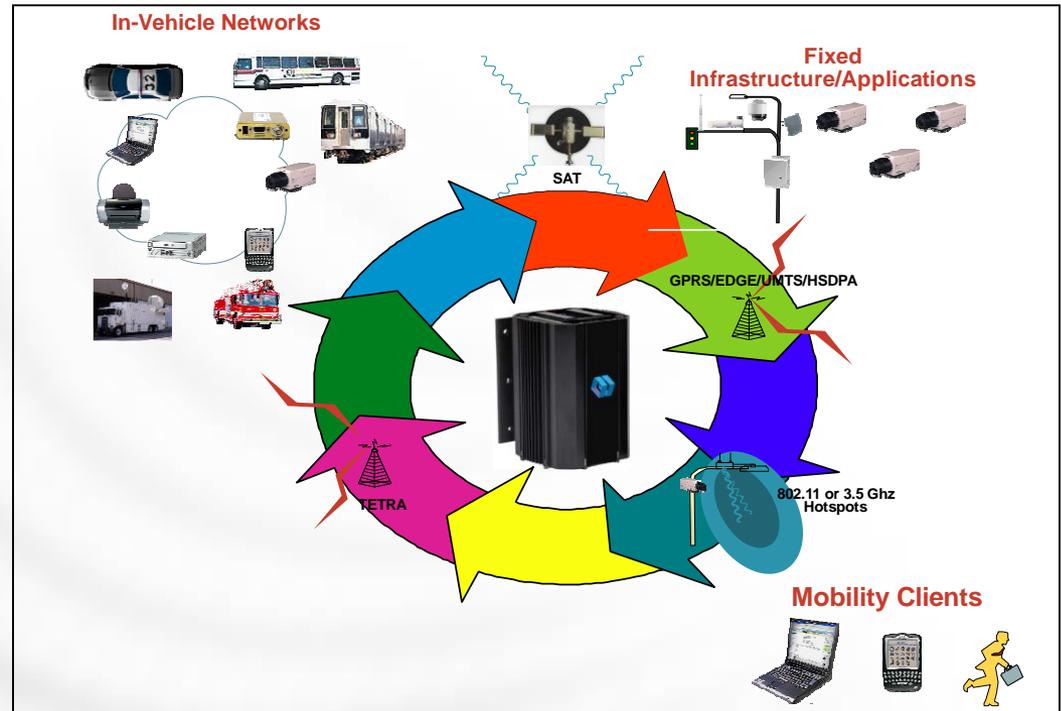
Applications

Logistics (Transport of goods by means of Trucks, Trains and boats)

- Vehicle-to-Vehicle messaging
- Centre-to-Vehicle messaging
- Vehicle Location/Mapping
- Vehicle telematics
- Situational video transmitting and receiving
- Security video transmitting and receiving
- Web access to drivers

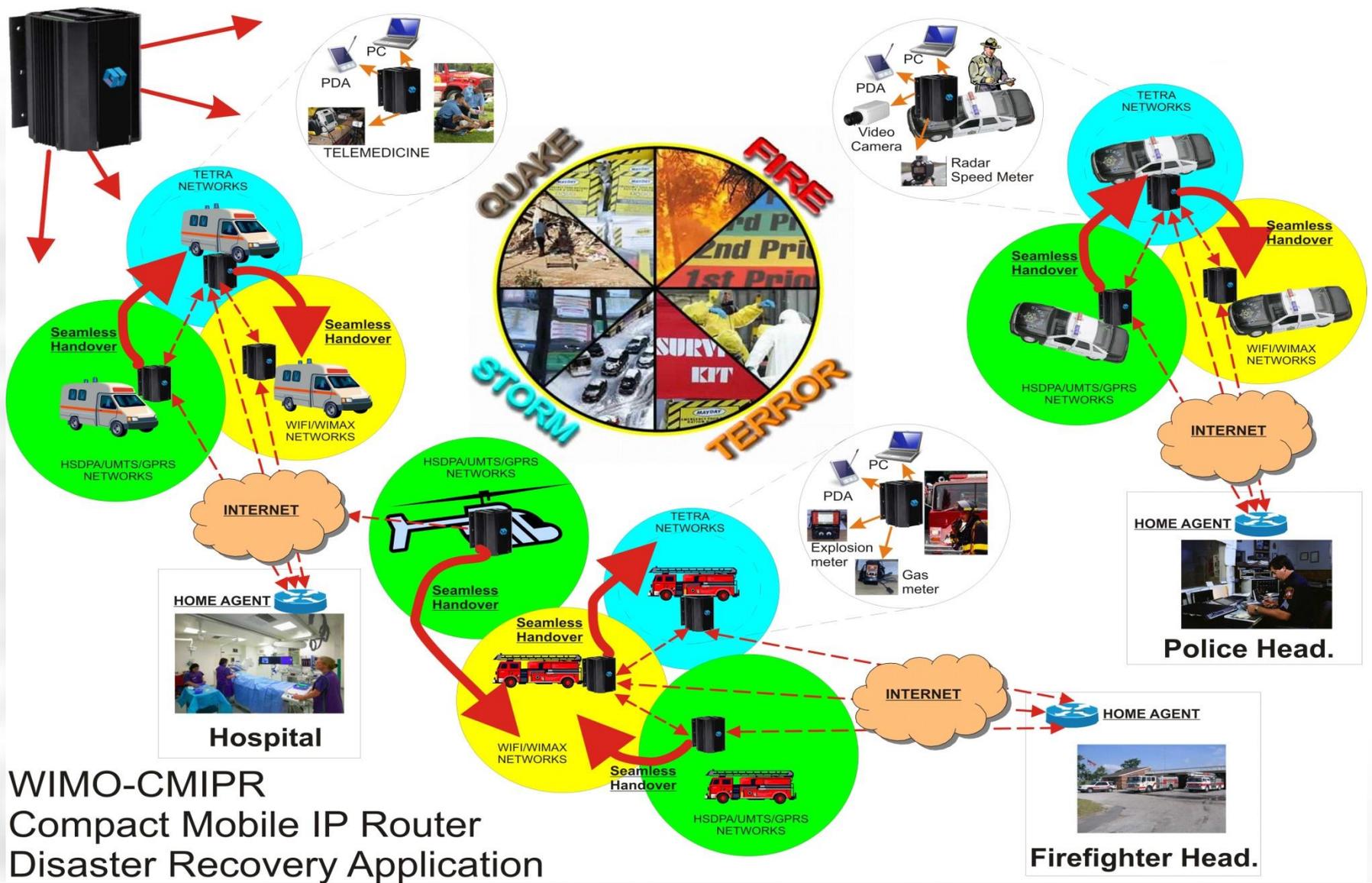
Private transport (Cars, Vans etc.)

- Mobile Internet on the move (your office moves with you)
- Security video transmitting and receiving



WIMO – CMIPR Compact Mobile IP Router

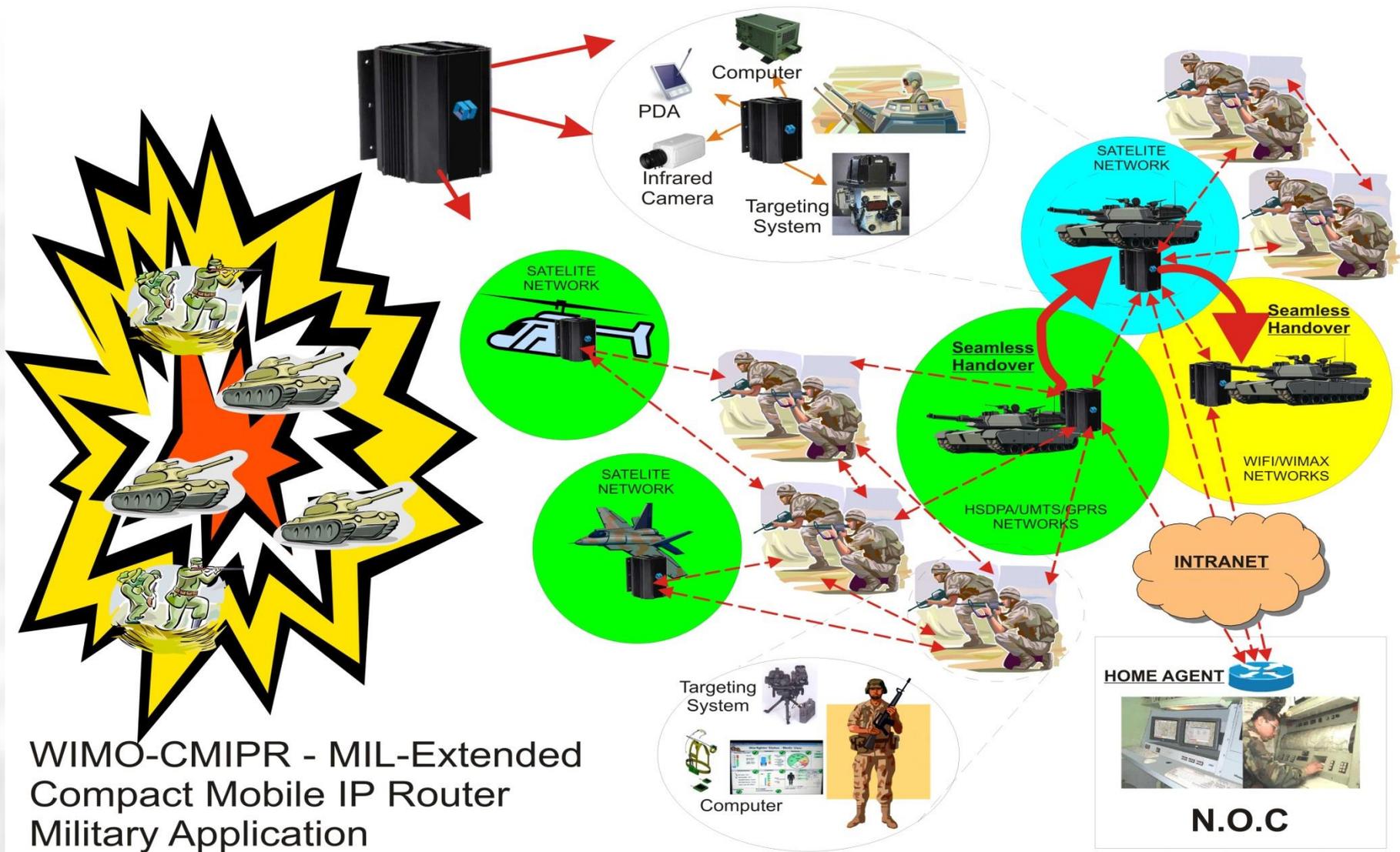
Disaster Recovery Scenario



WIMO-CMIPR
Compact Mobile IP Router
Disaster Recovery Application

WIMO – CMIPR Compact Mobile IP Router

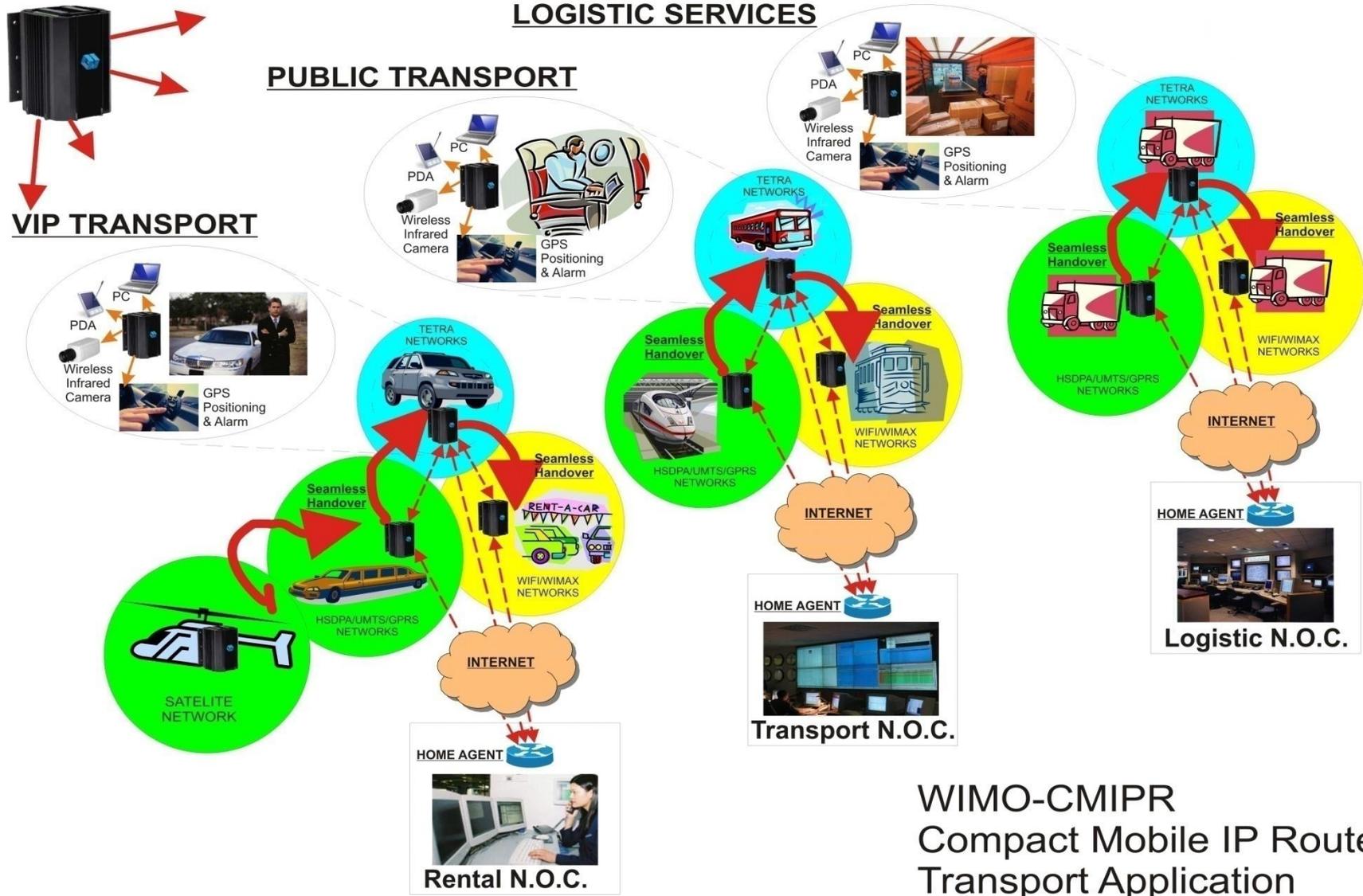
Defence Application Scenario



WIMO-CMIPR - MIL-Extended
Compact Mobile IP Router
Military Application

WIMO – CMIPR Compact Mobile IP Router

Transport Application Scenario



WIMO – CMIPR Compact Mobile IP Router

Product Specification

The ComPlus Systems WIMO CMIPR Rugged Router is a high-performance rugged processor card designed to support multiple applications running concurrently over wired and wireless networks. With onboard hardware encryption, the WIMO CMIPR offloads encryption processing from the router CPU to provide secure, yet scalable video, voice, and data services for outdoor and mobile networks.

Based on custom-made Linux core, comes with:

CORE SYSTEM

PC/104+ Single Board Computer

- CPU : x86 architecture, 266/300 MHz, 16 KB cache, FPU, MMX
- PCI and ISA expansion busses
- 128 Mbyte SDRAM
- 512 Mbyte Flash Disk
- Graphics Controller with interface for TFT panels, NTSC/PAL TV and RGB color monitors
- Standard peripherals: serial ports, LPT port, I/O ports, FDC, PS/2 keyboard and mouse, IrDA, HDD interface
- Power consumption below 5W

CONNECTIVITY

802.11a/b/g interface/s for connection to Public WLAN and Hot Spot creation.

-Data Rate

- Up to 54 Mbps

-IEEE Standard

- 802.11b/g

-Security

- 64/128 bit WEP, WPA/WPA2, 802.1x, AES

-Signal Range

- Indoors: Up to 100m Outdoors: Up to 400m
- SMA Connector for Antenna / U.FL RF (Hirose CL331-0471-0-10) inside equipment



Product Specification

HSDPA/UMTS/E-GPRS interface/s with external antenna.~

Air Interface

UMTS (HSDPA) antenna

SMA Connector for Antenna / U.FL RF (Hirose CL331-0471-0-10) inside equipment

50 ohm

RF features

Quad-band GSM/GPRS 850, 900, 1800, 1900 MHz

UMTS WCDMA FDD 2100 MHz Packet mode features

Packet mode features

UMTS data rates 384 kbps Downlink, 384 kbps Uplink

HSDPA data rates 1.8 Mbps Downlink, 384 kbps Uplink

GPRS/EDGE Class B, Multislot Class 10

Certifications

Complies with the essential requirements of §3 and the other relevant provisions of the FTEG (article 3 of the R&TTE Directive), when used for its intended purpose.

Health and safety pursuant to § 3 (1) 1. (Article 3(1)a))

Harmonized standards applied:

EN 60950-1: 2001 + A11: 2004

Protection requirements concerning electromagnetic compatibility § 3 (1) 2. (Article 3(1) b))

Harmonized standards applied:

EN 55022: 1998 + A1: 2000 + A2: 2003

EN 55024: 1998 + A1: 2001 + A2: 2003

EN 61000-3-2: 2000 + A2: 2005

EN 61000-3-3: 1994 + A1: 2001

1x Ethernet 10/100 interfaces (optionally the number of interfaces can be extended).

USB 2.0 interface

1x RS-232 interface (optionally the number of interfaces can be extended)



Product Specification

POWER SUPPLY

PC/104+ Power Supply unit

25 Watt output

+5V

Clean and Filtered Power for the PC/104 bus

“Load Dump” transient protection

Options: Battery Backup, Battery Charger, Power Management & AC Bus Termination

Optional reverse input protection (Part # RPD)

Low quiescent current

Electrical Specifications

5V output 5.0A

12V output 1.0A

-5V output 0.40A

-12V output 0.16A

Input Voltage 8 to 30VDC

Performance Characteristics

Peak to Peak ripple* <50mV

Load Regulation** <30mV

Line Regulation** 40mV

Output Temp. Drift** <10mV

Output Ripple** 50mV

Quiescent Current*** 22mA

Efficiency up to 85%



Product Specification

PC/104+ Enclosure

The WIMO CMIPR container is a rugged anodized aluminum PC/104 enclosure designed for harsh environments. With an isolating shock mount and an internal stack vibration mount, the enclosure provides maximum protection from high frequency vibrations and low frequency G-forces

- Internal rubber corners guides for easy insertion of additional PC/104 modules
- Standard 5/8/10/12 inches size depending on configuration
- Dual system of isolating and absorbing shock
- Protects and enhances the reliability of PC/104 components
- Optionally available in IP66 aluminum enclosure and waterproof end-caps

MECHANICAL AND ENVIRONMENTAL SPECIFICATION

Form factor according to PC/104-Plus specification

- Operating temperature: -20 °C ... +70 °C
- Storage temperature: -40 °C ... +85 °C
- Vibration resistance DIN EN 60068-2-6
- Shock DIN EN 60068-2-27

Notes:

- * Current rating includes current supplied to 12V and -12V regulators
- ** Measured on the 5V output
- *** LEDs disabled and power supply is in shutdown mode



WIMO – CMIPR Compact Mobile IP Router

Product Specification

OPERATIONAL SYSTEM

Os Platform based on customized Linux (Kernel 2.6).

Mobile-IP stack implementation based on IETF (RFC Editor) recommendations:

- RFC3344 IP MOBILITY SUPPORT
- RFC2003 IP ENCAPSULATION WITHIN IP
- RFC3519 UDP TUNNELING
- RFC2794 NAI EXTENSIONS
- RFC3012 CHALLENGE/RESPONSE EXTENSIONS
- RFC3024 REVERSE TUNNELING
- RFC3115 VENDOR EXTENSIONS.

Web-Based (HTML) MMI Interface.





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