

Cyber VauLTE™

IAS and RIVA Networks have teamed to design, develop and produce the **Cyber VauLTE™**. Cyber VauLTE™ is the smallest, COMPLETE military-grade, **deployable cellular network solution** available today. The solution delivers a private, anywhere-anytime cellular network providing secure communications for forward deployed operations.

Cyber VauLTE™ performs the role of a tactical cellular bubble. It securely long-hauls voice and data (using NSA Suite B IPSEC) to another cellular bubble or back to a headquarters location.

Cyber VauLTE™ Key Features

- Provides cell coverage in areas of denied infrastructure or lack of infrastructure
- Allows users to operate avoiding commercial networks and/or simulate commercial networks
- Identify unauthorized mobile phones in restricted areas
- Eliminates the need to use traditional Ethernet cables and desktop VoIP phones
- Allows for the tactical cellular bubble to be long hauled securely using NSA Suite B IPSEC



The Cyber VauLTE™ Solution includes:

- IAS Router MICRO Extreme
- RIVA cellular base station transceiver(s)*

* Bands and technologies based on customer needs (GSM, 3G and 4G LTE)

IAS MICRO Extreme

The IAS Router MICRO Extreme is an IP router that acts as a Virtual Machine (VM) Server Hypervisor to host RIVA Networks' Call Control software directly on the router's firmware (Patent Pending). This unique VM capability eliminates the need for additional computer(s), making the Cyber VauLTE™ solution small, light and ultra-deployable.

The IAS Router's diverse WAN technology supports:

- One or more Ethernet interfaces
- One or more commercial 3G/4G cellular modems
- Wi-Fi client to consume public Wi-Fi access points as a way to access the Internet for secured long haul transport of voice and data

RIVA Call Control Core Software

RIVA Networks' Call Control Core software enables secure, private cell phone networks anywhere on earth. It is class-leading for its ease of use, flexibility and reasonable cost.

The RIVA Call Control Core software supports:

- GSM, 3G and 4G LTE network technologies
- Handsets, tablets, laptops and other cellular enabled devices, public SIM cards or private SIM cards, or a hybrid of both
- Thousands of users with no additional licensing (simply add additional transceivers as needed)

The Cyber VauLTE™ solution is small, light-weight and scalable. In its smallest configuration, the Cyber VauLTE™ solution is 6.5" wide by 9" deep by 3.6" tall, and weighs under 10 lbs. (with a single LTE, 4G or 3G cellular transceiver). Additionally, the solution has the flexibility to adapt to various mission requirements. To add different bands, more network technologies or more users, simply add the additional transceivers needed. Each transceiver adds a 6.5" wide by 9" deep by 1.8" tall device.

The IAS Router EXTREME and RIVA transceivers are low power and can run from small form factor batteries including:

- Military 5590/2590 batteries
- IAS's UPS-500 - Uninterruptable power supply with 155 Wh Li-Ion battery

IAS MICRO EXTREME SPECIFICATIONS

Physical/Environmental

| | |
|-----------------------|-----------------|
| L x W x H (Inches) | 9.0 x 6.5 x 1.8 |
| Operating temperature | -20°C ~ +70°C |
| Storage temperature | -40°C ~ +85°C |
| Operating humidity | 5% ~ 95% |

Power

| | |
|---|-----------|
| Wide range dirty DC input | 9 ~36 VDC |
| 100-240 VAC 50/60 Hz auto ranging, auto sensing PSU | |

WAN Technology

| | |
|------------------------------------|------------------------|
| 10/100/1000 Ethernet | 6 |
| PPPoE | |
| 802.11 a/b/g/n/ac client and/or AP | |
| 3G/4G cellular | USB tethering optional |
| RS232 | |

VPN Technology

| | |
|---------------------------------|-----------|
| IPSec | |
| NSA Suite B, IPSec (IPMEIR) VPN | |
| Suite B IPSec Performance | >250 Mbps |

Security

| | |
|--|--|
| Deep Packet Inspection | |
| Advanced Firewall Functionality | |
| Intrusion Detection/Intrusion Protection | |

Third Party Capabilities

| | |
|-------------------------------|--|
| Cisco IOS Optional (5921 ESR) | |
|-------------------------------|--|

Certifications

| | |
|--|--|
| NSA Commercial Solutions for Classified (CSFC) | |
| FIPS-140-2 | |
| NIAP Common Criteria | |

RIVA TRANCEIVER SPECIFICATIONS

Physical/Environmental

| | |
|-----------------------|--------------------------|
| L x W x H (Inches) | 9.0 x 6.5 x 1.8 |
| Operating temperature | 0°C ~ +40°C |
| Operating humidity | 10% ~ 70% non-condensing |

Power

| | |
|-----------------|--------------------|
| 12 VDC | |
| RF output power | 1W - 50W (Inquire) |

Security

| | |
|--|--|
| 3GPP air interface security | |
| IPsec IKEv2 on AP-SeGW links | |
| x509 certificate authentication with CRL | |

Mobility

| | |
|---|--|
| Intra-frequency, Inter-frequency, Inter-RAT | |
|---|--|

Band Options

| | |
|---------|--------------------------------|
| LTE FDD | 1,2,3,4,5,7,10,12, 13,14,17,20 |
| 3G | 1,2,4,5 |

LTE Services

| | |
|---|----------------------------|
| Radio: 2x2 MIMO, 125mW per port, Local Area Basestation class | |
| Simultaneous active users | 16 per Access Point module |
| 75/25 Mbps | |
| CSFB for voice | |
| VoLTE | |

Warning system broadcast

3G Services

| | |
|---|----------------------------|
| Simultaneous active users | 16 per Access Point module |
| 12.2 AMR CS voice | |
| Rel 99 PS 64/128/384 kbs | |
| HSDPA to 14.4 Mbps (21 Mbps upgradable) | |
| HSUPA to 1.45 Mbps (5 Mbps upgradable) | |
| Supplementary service transparency | |
| SMS, MMS, Cell broadcast | |