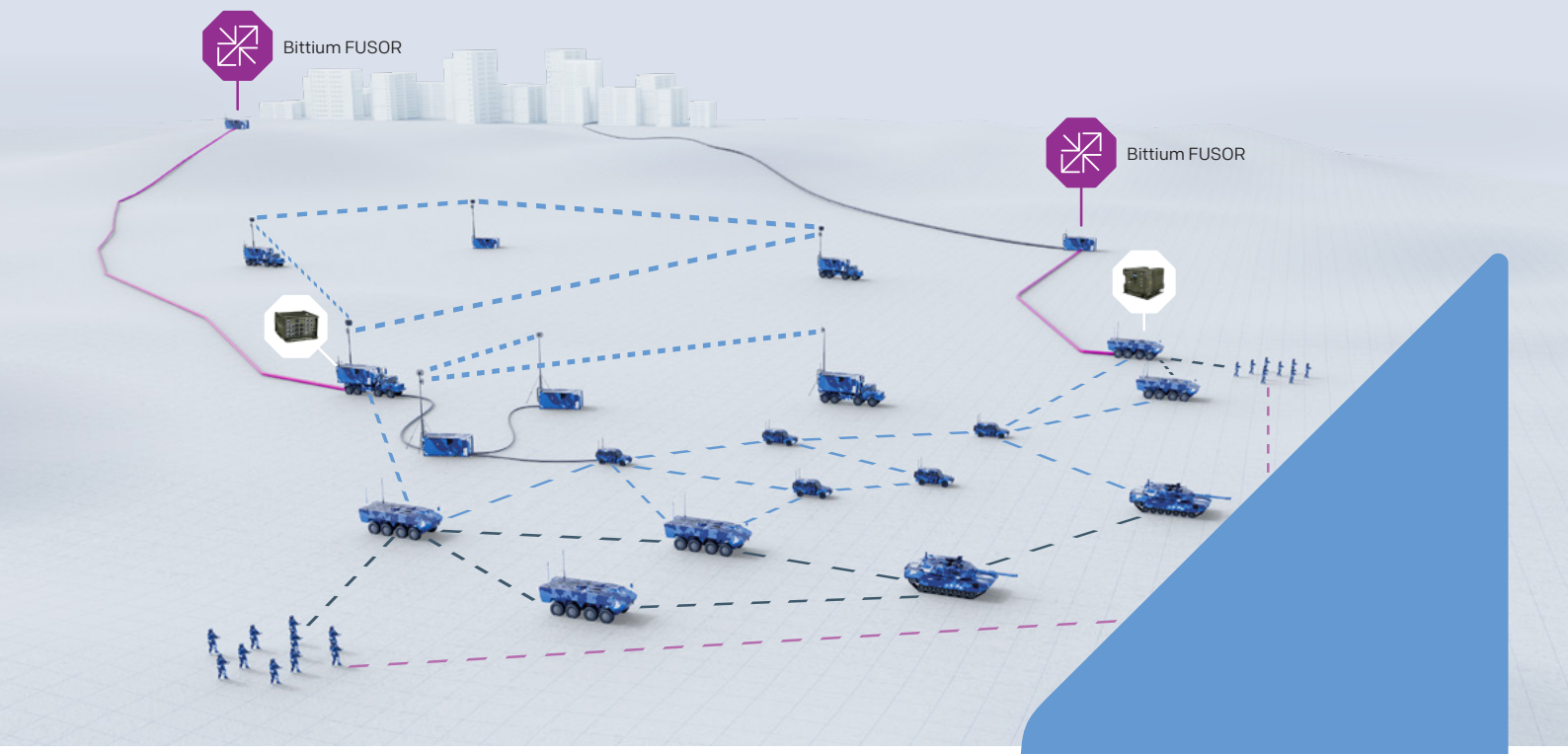
Bittium

Bittium FUSOR™



Bittium FUSOR™ (Flexible Unifying Software Router) extends Bittium's mobile ad-hoc network (MANET) into commercial off-the shelf (COTS) infrastructure. It is part of the tactical communications portfolio, working seamlessly with other routing products Bittium TAC WIN Tactical Router™, Bittium Tough SDR™ radios, and Bittium Tough Comnode™.

FUSOR makes it easy to deploy routing capability without dedicated tactical hardware. This provides a flexible way to expand Bittium's tactical network and connect units with fixed and hybrid infrastructures, including MANET over 5G. FUSOR enables unified routing across the different network domains.

Together with Bittium's other routing solutions, the network automatically selects efficient data paths and avoids disruptions. This ensures reliable communications across tactical, hybrid, and fixed infrastructure without complex manual configuration.

The unified network adapts automatically as network conditions change. This seamless and automated operation supports real-time situational awareness and effective command and control, helping users maintain reliable communications in demanding operational environments.

Benefits

- Resilient communications across tactical, hybrid, and fixed infrastructures
- Seamlessly and flexibly extends Bittium MANET routing into COTS infrastructure
- Cost-efficient solution for deploying routing capability alongside Bittium's other routing products: TAC WIN Tactical Router, Tough SDR radios, and Tough Comnode
- Automatic networking during operations with zero-configuration MANET routing protocol
- Enables loop-free routing, optimal route selection, and multicast traffic

FOR MORE INFORMATION, PLEASE CONTACT:

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Bittium FUSOR™ Specifications

Software

OPERATING ENVIRONMENT

- Running in a virtual environment where hypervisor (type 1 or type 2) provides virtual interfaces for FUSOR
- FUSOR uses the memory, processor, network equipment, and disk space that the hypervisor provides

FEATURES

IP and networking features

- Supported routing protocols:
  - Bittium MANET unicast
  - OSPF (RFC 2328, RFC 5340)
  - BGP (RFC 4271)
  - Bittium MANET multicast
  - Protocol Independent Multicast (PIM, RFC 4601), (optional)
- Bittium MANET provides free node mobility automatically
- Terminals connect to FUSOR with DHCP protocol or static IP address
- Tunneling with GRE (Layers 3 and 2)
- Overlay networks with VXLAN
- VLAN and bridging

Management

- Graphical web user interface and RestAPI

Software architecture

- Bittium hardened Linux®
- Complemented by Bittium networking software

Environment

SUPPORTED PLATFORMS

- Can be run on most virtual platforms
- Linux® KVM recommended

PROCESSOR & MEMORY

- One core at the minimum, scalable
- 2GB RAM at the minimum
- Mass storage 10GB at the minimum

NETWORK INTERFACES

- Supports up to 30 network interfaces
- VirtIO driver to handle network traffic with the host computer

Information Security

FIREWALL

- Provides network traffic protection and access control for local area networks (LANs)

COMMUNICATION SECURITY

- IPsec
- Protocols and Network Manager traffic signalization protected with AES-256

KEY MANAGEMENT

- IPsec with pre-shared or certificate-based keys
- Pre-shared communication keys are stored in database, where expired keys are automatically removed
- Router reset and key erase

TIME

- NTP protocol can be used to maintain local clock and re-distribute time in network

Usability

CONFIGURATION

- Router can be configured entirely with a single device configuration file which can be encrypted and signed by a trusted party
- Same configuration file can be used for all routers
- REST API can be used to configure the router programmatically

WITH LOCAL USER INTERFACE

- Loading device configuration
- Web interface for setting the most needed parameters

WITH BITTIUM TACTICAL NETWORK MANAGEMENT™ TOOLS

- Tactical Network Manager for monitoring routers and collecting data directly from each router
- For example, Manager Tool can be used to provide network topology image with FUSOR included

FAULT MANAGEMENT

- Faults can be tracked in local web user interface for a single device and in Tactical Network Manager Tool for the entire network

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