Bittium

Bittium SafeMove®
Mobile Router Toolkit
Secure and Seamless Connectivity for Mobile Router Systems

Bittium SafeMove® Mobile Router Toolkit (MRTK) is a software stack for OEMs, specifically designed to be integrated into embedded Linux based mobile router systems. It is also available for embedded Windows variants and Android.

The Mobile Router Toolkit (MRTK) ensures uninterrupted connectivity for mobile applications and environments where multiple data links are used for resilience and availability. It is a set of mature software components that allow manufacturers of vehicular routers, cellular routers and multichannel routers to introduce solid network security, uninterrupted connectivity, seamless network switching, centralized router management and visual connectivity analytics into their product offering.
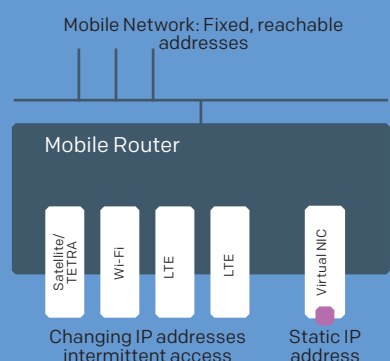
When Connectivity is a must

Connectivity and reliability of cellular networks is a real challenge, especially in rural areas. Sometimes continuous access is a must also on the move, for example in emergency situations. The Bittium SafeMove® MRTK solution is designed for situations where broadband connectivity is a must and where reliable connectivity

and the largest possible coverage is needed. Typical application areas can be found in Public Safety and Security, rail and road transportation, manufacturing industry and in healthcare.

The Bittium SafeMove® MRTK is a client/server software solution. The client software can be embedded into multichannel router hardware to provide seamless and reliable switching between the best available data networks such as WiFi, cellular, satellite and Ethernet. The server includes standards based Mobile IP Home Agent (HA) software which can be clustered for load balancing and high availability. The client software is also interoperable with third party HAs supporting the Mobile IP standard. The solution can be complemented by Bittium's IPsec security engine for encryption and it fully interoperates with third party VPN solutions if required.

Multi-channel router solution benefits for vehicles and M2M

› **Embedded Mobile IP** provides automatic, seamless and reliable switching between the best available broadband data networks (Wi-Fi, Cellular, Satellite, Ethernet)

› Ensures **uninterrupted connectivity** for mobile applications and environments where secondary links are used for resilience and availability

› **Link aggregation** allows utilizing several broadband links to combine available bandwidth

› Supported platforms: **Linux, Android, Windows** (limited functionality)

Mobile Network: Fixed, reachable addresses

Mobile Router

Satellite/TETRA | Wi-Fi | LTE | LTE | Virtual NIC

Changing IP addresses intermittent access | Static IP address

FOR MORE INFORMATION, PLEASE CONTACT:
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Bittium SafeMove® Mobile Router Toolkit

Features

Uninterrupted seamless connectivity for mission critical applications

SafeMove® MRTK is ideal for multichannel routers as it provides uninterrupted, seamless connectivity for the router and any devices the router serves. Thanks to our mobility management, dynamically using and choosing the link is completely transparent to existing data sessions. Mission critical applications are always connected using the best available link.

Multilink bonding for maximum throughput and performance

With advanced link aggregation features, multichannel routers can take advantage of all the modems and links included in the router. This is what sets true multichannel routers apart from simple Mi-Fi devices and ordinary single link wireless routers. With SafeMove® MRTK, the link aggregation not only provides you with maximum throughput, but also allows your sessions to seamlessly, transparently and dynamically move from one link to another as the link capabilities change.

Solid security and network traffic confidentiality

Multichannel VPN routers can use SafeMove® MRTK's VPN component, which provides high throughput and strong security with modern cryptography options and NSA Suite B compliant encryption and authentication capabilities. VPN tunnels benefit from SafeMove® MRTK´s advanced mobility management and are not affected by link changes. This way SafeMove® Mobile VPN router keeps your data always protected and allows your session to run without interruptions.

Device management for keeping the router fleet under control

With the SafeMove® Manager toolkit, you can keep your routers in control, always up-to-date and always protected. You are able to update the configurations and policies remotely. Routers will report back to the SafeMove® Manager, which will allow operators and administrators to maintain visibility over the router fleet in an easy to use web user interface with full mapping support. With an embedded PKI system, the authentication keys and certificates can automatically be enrolled to the routers. Flexible and granular access management allows administrators to control which routers can access which enterprise systems.

Analytics for assured field performance

With the SafeMove® Analytics SDK integrated in the router, you´ll get facts and visibility of the level of connectivity your router provides. WAN optimization has never been this easy: measure and analyze the mobile performance and learn about the areas where you get poor coverage, identify potential problems, and make informed decisions in order to further optimize connectivity. By extending the collected analytics data, you can be sure to capture the information that matters the most.

Scalable client/server solution

The SafeMove® MRTK is a client/server software solution. The client components can be embedded into multichannel router hardware to provide seamless and reliable switching between the best available broadband data networks including LTE and Satellite or any other link type. The server software consists of components that can be clustered for load balancing and high availability and are hardened and approved to match today's cyber security requirements.

Solid, standards based architecture

The SafeMove® MRTK builds on public Internet standards and protocols such as IPsec and Mobile IP. The software and architecture are mature and battle proven, and have been successfully used in demanding environments in production for over a decade. This ensures compatibility and interoperability with existing systems, and that the mobile router features work in all environments encountered in the real Internet, including satellite networks, QoS routing environments, middleboxes etc. The components are continuously developed to keep up with new standards and requirements in the quickly evolving wireless Internet space.

Toolkit Components

- **Bittium Mobile IP Mobile Router** for seamless uplink handovers, mobile network reachability and link aggregation
- **Bittium SafeMove® Mobile VPN** for network security and protecting data in motion
- **Bittium SafeMove® Manager Toolkit** for Mobile Routers for centralized configuration and monitoring of mobile routers
- **Bittium SafeMove® Analytics** for comprehensive data collection, monitoring, analysis and visualization of connectivity and performance of mobile routers and all system components

OEMs can choose to integrate all Toolkit components or adopt them one by one. Bittium offers a range of R&D and NRE services for optimizing the toolkit into specific business case of the OEM's domain.

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