

## Living Systems® SmartShift Mobile IP

- ❑ Wi-Fi offload of select 3G/4G traffic preserves CAPEX
- ❑ Seamless vertical handover protects quality of user experience
- ❑ IP preservation ensures all applications to work without disruptions
- ❑ Easy integration for effective enhancement of standard software
- ❑ Supports IETF Mobile IPv4 standard
- ❑ Deployed on over 250,000 devices in Europe

“The solution continuously delivers the best possible connection, switching seamlessly between mobile broadband, Wi-Fi hotspots, and DSL.”

Torger Kjeldstad  
Product Manager, Mobile Broadband  
Telenor

*Living Systems® SmartShift Mobile IP* is an open, standards-based software module for equipping any third-party connection management software with patented, GSMA Award<sup>1</sup>-winning seamless handover and Wi-Fi offload capabilities.

### Smart Wi-Fi Offload and Seamless Handover

The *Living Systems® SmartShift Mobile IP* software module lets independent software vendors provide fast and cost-effective relief to their MNO clientele by intelligently offloading select mobile data traffic to Wi-Fi.

The module allows MNOs to use Wi-Fi as a seamless extension of their 3G/4G infrastructure and delivers a smooth mobile broadband experience across all access technologies to their enterprise and private customers.



*The Living Systems® SmartShift Mobile IP module can equip any connection management software with superior Wi-Fi offload and seamless handover capabilities*

### Rising data volumes

The incessant growth of mobile data traffic puts pressure on operators to prevent quality issues and network outages that would impact other lucrative services, particularly voice traffic. With operator-owned and private WLAN access points abounding and nearly unlimited expansion potential in this unlicensed spectrum, offloading select data traffic to Wi-Fi networks is an effective and sustainable solution.

### The case for Wi-Fi offload

Moving select mobile data traffic to Wi-Fi with *Living Systems® SmartShift Mobile IP* technology keeps end-user sessions visible and allows the operator to keep a hold on service quality and quality of experience. It prevents disruptions to applications that are sensitive to IP address changes, such as VPN tunnels, streaming video, or cloud-based services. It allows MNOs to use Wi-Fi as a seamless extension of their cellular network and thus increase system capacity while optimizing access cost.

### Comprehensive functionality to boost your offering

The module's seamless mobility optimization capabilities allow smart network discovery and selection based on provider policies, application rules, and the status of available resources. *Living Systems® SmartShift Mobile IP* technology routes select user traffic over Wi-Fi in a transparent manner without any interruption to the user experience. It automates completely seamless handovers between access connections and ensures session continuity with stable IP preservation.

1. GSMA Award 2005 for Best Mobile Business Application

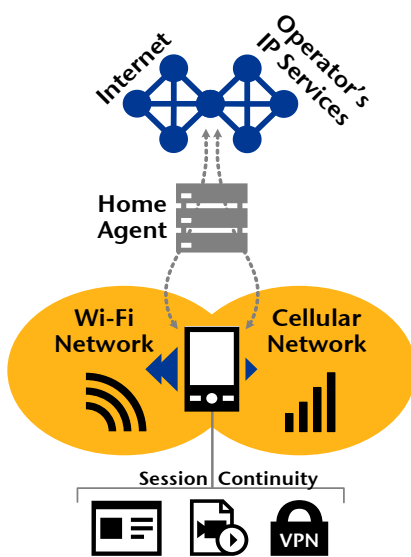
## Product Features

### 3G/4G data traffic offload to Wi-Fi

*Living Systems® SmartShift Mobile IP's* intelligent connection management delivers a cost-effective way to cope with growth in data traffic volumes by optimizing network utilization and lowering congestion. By intelligently offloading traffic from congested cells to operator-owned or third-party Wi-Fi infrastructures, the module actively helps maintain quality of service and user experience while effectively preventing the impairment of lucrative voice services.

### Seamless vertical handover with IP preservation

*Living Systems® SmartShift Mobile IP* handles interruption-free, automatic handovers between cellular, Wi-Fi, and wired networks without affecting running applications and services.



*Smart Wi-Fi offload and seamless connection mobility with session persistence*

### Support for all major network technologies

*Living Systems® SmartShift Mobile IP* manages connections to and seamless vertical handover between 2G/3G/3.5G (GPRS, EDGE, UMTS, HSPA), public and private WLAN (with seamless authentication), and Ethernet. The module is ready for WiMAX and LTE.

### Standard component software interface

*Living Systems® SmartShift Mobile IP* offers a standard COM (Common Object Model) API for Mobile IP, which makes it open for integration in virtually any third-party connection manager. Alternatively, a command line API giving complete access to the module's functionality is also provided.

### Full-fledged software development kit (SDK)

An SDK is provided with the module to aid with integration and application development.

### Extended home agent support

The module supports all Home Agents according to the IETF's Mobile IPv4 standard (RFCs 3344 and 4721) and is open for extending compatibility to include further environments.

### Ready for 3GPP2

The Mobile IP architecture is part of the 3GPP2 specifications and ready to be applied in 3GPP2 networks without any further changes to the packet data network architecture.

### Detailed diagnostics

Automated self-diagnostics ensure proper installation of the software and continuously check the availability of networks to optimize its performance. Comprehensive usage data and error logs are available for remote diagnostics and trouble-shooting.

## About Whitestein Technologies

*Whitestein Technologies* is a pioneer of self-adaptive enterprise software.

We create software that responds to changing conditions so it can optimize processes and infrastructures in real-time. To stay ahead, we are continuously advancing our innovations in the field of autonomous software agent technology.

*Whitestein Technologies* is headquartered in Zürich (Switzerland) with several global offices.

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