- Software fully compliant with the IETF standards RFC 3095, RFC 4815 and RFC 3843
- Lightweight implementation including all features suitable for low-end devices
- Highly portable ANSI C code with no operating system dependencies
- Platform and endianness (byte order) independent
- Highly configurable with compile- and run-time options
- Highly modular with external memory management
- Multi-threading support
- Extensively tested, in-house as well as during interoperability and field tests

Effnet ROHC™ is targeted for real time, interactive, streamed and secure multimedia applications. It is robust and maintains high compression efficiency even in the presence of high BER, long RTT and packet loss. These conditions are typical of wireless links, multi-hop networks etc e.g. cellular, satellite networks and WAN. ROHC is recommended by 3GPP from UMTS Release 4 and onwards, and an important component of the IMS, IP Multimedia Subsystem, as per the UMTS Release 5. ROHC is a requirement for VoLTE (3GPP Rel8+) and VoNR (3GPP Rel15+). Effnet ROHC™ is an enabler of VoIP and substantial capacity increase on these networks.
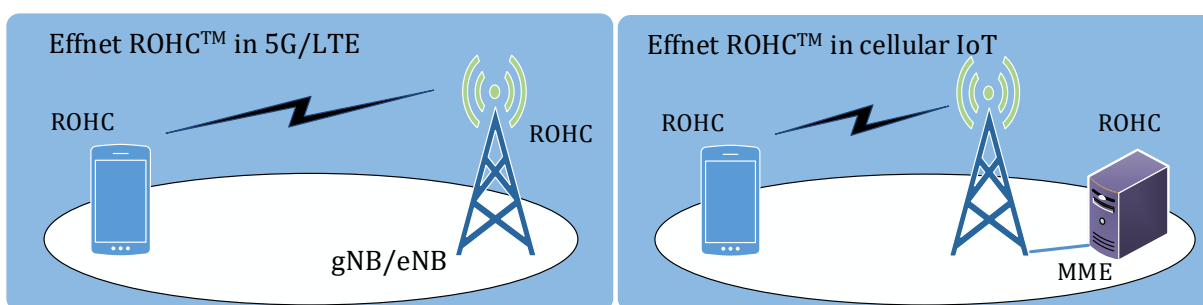
Effnet ROHC™ is highly portable, platform and endianness independent, software. It's modular design is configurable at compile and run time. This makes it suitable in various environments including multi-thread, multi-core, memory and system challenged etc. Effnet ROHC™ focuses on standards compliance and efficiency, compression, system as well as operational level.

Effnet ROHC™ has undergone extensive testing, via IOTs, field tests and internal testsuite.
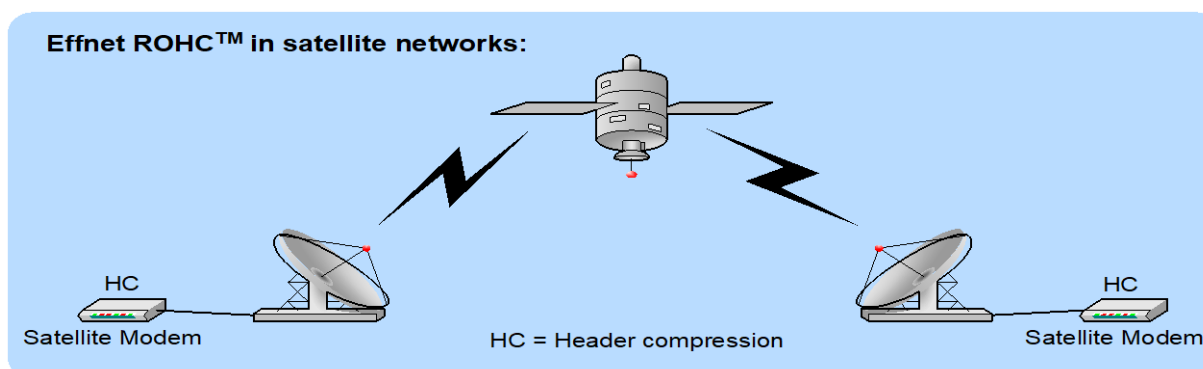
Effnet ROHC™ is designed to be easily adapted to a variety of operating systems and hardware platforms. The implementation is developer-friendly and available both in user space, for debugging and testing (with Effnet HC-Sim™), and kernel space, for link layer integration such as the PPP according to RFC 3241. Effnet can assist in the link layer integration process as an engineering service.

Effnet ROHC™ v.2.11

The product supports the following standards based functions:

- All profiles: ROHC-Uncompressed, ROHC-RTP, ROHC-UDP, ROHC-ESP and ROHC-IP
- Compression of IPv4, IPv6 and extension headers
- ROHC compressor and decompressor states and modes including mode transitions
- All ROHC packet types, including all extensions: 0, 1, 2, and 3
- Both interspersed and piggyback feedback and feedback options
- Encoding mechanisms: LSB, W-LSB, scaled RTP timestamp, timer-based RTP timestamp
- Local repair mechanisms with enhancements
- List compression (RTP CSRC list and extension headers

Additional features for improved efficiency and operation:

- Full featured and efficient classifier and context manager module
- Efficient VoIP flow compression using
    - Improved field pattern detection algorithm
    - Effective use of feedback channel using rate control mechanism
- Support for running and switching between multiple instances for redundancy and fail safe operation (Used in large systems)
- Support for chained memory buffers in network stacks
- Interactive statistics and callback functions
- Dynamic channel parameter configuration

Optional features for improved efficiency and operation:

- ROHC Segmentation and Reassembly
- Packet Size Limitation Enforcements
- Reverse Decompression
- Efficient compression and decompression using link layer information
- Support for PDCP layer integration and MBMS as defined in 3GPP Rel 6 standard.
- Support for 3GPP2 C.S0085-0 standard recommendations for header compression.

Platforms

Effnet ROHC™ has been ported to PowerPC, MIPS, ARM and x86 processors and VxWorks, Nucleus, Linux, FreeBSD and Windows operating systems. It can be easily ported to other platforms as well.

Support

Effnet products are offered with a full range of support services, including problem reporting, bug fixes, updates, training, consulting and integration services. A sample application code is provided which demonstrates the use of API and speed-up the integration process.

For more information and references about header compression and Effnet ROHC™, see our library of white papers and data sheets at www.effnet.com

About Effnet AB

Since its beginnings in 1997, Effnet has been involved in research and development of technologies that improve the performance and efficiency of IP based networks. Effnet is committed to continue to provide leading edge IP technology.

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