◆ Software fully compliant with the IETF standards RFC 5795 (4995) and RFC 5225

◆ 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

Effnet ROHCv2™ is targeted for real time, interactive, streamed and secure multimedia traffic. It is robust and maintains high compression efficiency even in the presence of high BER, long RTT, packet loss and pre- and on-link reordering. Such conditions are typical of wireless links, multi-hop networks etc. Effnet ROHCv2™ enables operators to save bandwidth and support more users in the available spectrum without affecting quality.
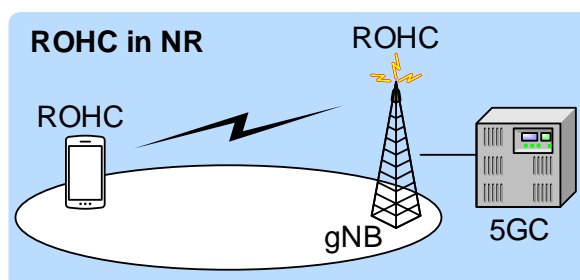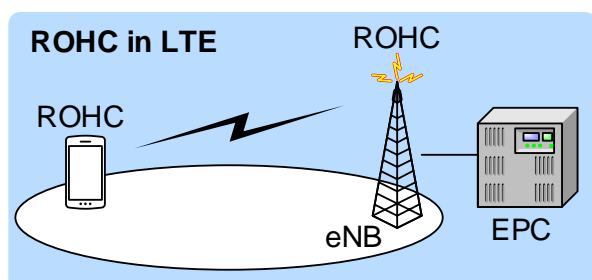
Effnet ROHCv2™ can be used in mobile broadband networks such as HSPA, LTE and NR. The standards for LTE (3GPP Rel 8+) and NR/5G (3GPP Rel15+) recommends implementation of ROHC based on RFC 5795, RFC 5225 (ROHCv2), RFC 3095 (ROHC) and RFC 4815. Effnet ROHCv2™ can also be used in cellular networks such as WCDMA. In fact, ROHC is an enabler of VoIP and provides a substantial capacity increase on all these networks.
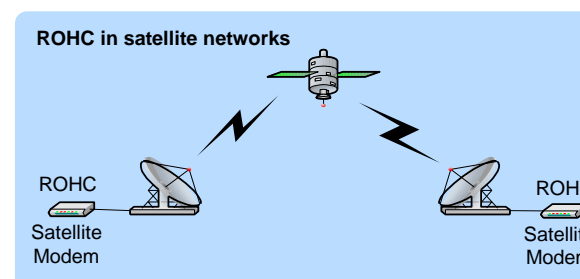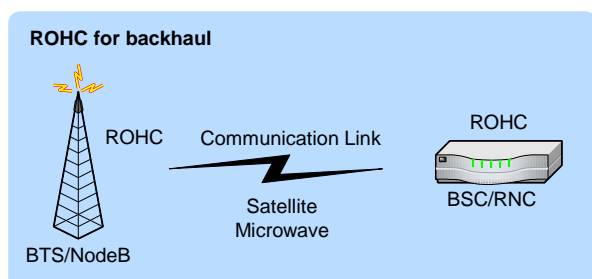
Effnet ROHCv2™ also provides improved efficiency for many other network links such as satellite, WAN etc.
The above examples shows how ROHC can be used on satellite or microwave links connecting multiple base-stations to BSC/RNC in a typical cellular or mobile broadband network.

Effnet ROHCv2™ is a member of the Effnet Header Compression family. All products work together seamlessly and are easy to integrate into customer's products. One or more products can be delivered as a package to fulfil requirements of standards e.g. Effnet ROHCv2™ and Effnet ROHC™ for 3GPP Rel 8+ (LTE) and Rel 15+ (NR), Effnet ROHC™ and Effnet IPHC™ for 3GPP Rel 7 and earlier (HSPA). Also available is Effnet HC-Sim™ (Effnet Header Compression Simulator) which is used to simulate traffic and link conditions to test the functionality of header compression modules. Effnet HC-Sim™ features a wide range of test cases with comprehensive logging and statistics generation capabilities. This ensures detailed testing of all features and functionality in Effnet's header compression products. For more information about Effnet HC-Sim™, see the related data sheet at www.effnet.com

Effnet ROHCv2™ – a member of the Effnet ROHC portfolio:

| Effnet ROHCv2™ | Effnet ROHC™ | Effnet ROHC-TCP™ | Effnet HC-Sim™ |

Effnet ROHCv2™ 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 PPP according to RFC 3241. Effnet can assist in the link layer integration process as an engineering service.

An example of header compression by Effnet ROHCv2™ :

| IPv4 | UDP | RTP | Payload | → | | Payload |

40 bytes — 20 bytes — ~21 bytes

Effnet ROHCv2™ v2.7
This release supports the following functions:

- Profiles: ROHCv2-Uncompressed, ROHCv2-RTP, ROHCv2-UDP, ROHCv2-ESP, and ROHCv2-IP
- Compression of both IPv4, IPv6 and extension headers
- All states and modes including mode transitions
- All ROHC packet types including feedback

- All encoding mechanisms: LSB, W-LSB, scaled RTP timestamp, timer-based RTP timestamp
- Efficient handling of pre- and on-link reordering of packets
- CSRC list compression
- ROHC Segmentation and Reassembly
- Classifier & Context Manager

Additional features for efficient compression and decompression:

- Efficient VoIP flow compression using
  - o Improved field pattern detection algorithm
  - o Link layer information
  - o 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)
- Local repair mechanism with enhancement using link layer information
- Reverse decompression

Effnet ROHCv2™ comes with full featured classification and context management module. The classification and context management function is not defined in standards but the module is provided as it is essential and eases the integration process. It includes efficient classification, context identification and management for various types of header chains including extension headers. With low platform resource requirements, this component is highly suitable for both handheld terminals and large network systems.

Platforms
Effnet ROHCv2™ 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, in source code form, is provided which demonstrates the use of the API to speed-up the integration process.

For more information and references about header compression and Effnet ROHCv2™, 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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