ROHC, RObust Header Compression, RTP/UDP/IP demo

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Short introduction to ROHC:
In this demo we present the ROHC implementation that has been developed jointly by INRIA and ST Microelectronics.
ROHC (RFC 3095) is an Internet standard that provides a generic way to compress Internet Protocol headers reliably over wireless links with high error rate (~10^{-3}) and high latency. ROHC is therefore particularly suited to cellular links such as UMTS (ROHC is a part of the 3GPP standard).
The usage of IP on mobiles phones is a way to achieve a better flexibility, integration and easier management of the provided services.
A problem with voice over IP applications on cellular links is the high header overhead: using RTP/UDP/IPv4 the header length amounts to a total of 40 bytes, and 60 bytes with RTP/UDP/IPv6.
Comparatively the payload size may be as low as 15-20 bytes. In such a case header compression is necessary to achieve a cost effective network usage, since ROHC may compress up to 1 byte headers.

Demonstration:
We implemented ROHC on Linux 2.4.x kernel over Wi-Fi and Ethernet networks. Our implementation supports various compressions profiles: no compression, RTP/UDP/IPv4/v6 (that will be demonstrated), UDP/IPv4/v6, ESP/IPv4/v6 compression schemes, respectively called profile 0,1,2 and 3.
For this demo we will use Darwin Streaming Server as video server and mpeg4ip as video player on two hosts loup and lupus. A third machine Fouine is used as network sniffer.