

# SIP compression

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The Session Initiation Protocol (SIP), is a textual protocol engineered for bandwidth rich links. As a result, the SIP messages have not been optimized in terms of size. Typical SIP messages are from a few hundred bytes to as high as 2000. To date, this has not been a significant problem.

With the planned usage of these protocols in wireless handsets as part of 2.5G and 3G cellular networks, the large size of these messages is problematic. With low-rate IP connectivity, store-and-forward delays are significant. Taking into account retransmits, and the multiplicity of messages that are required in some flows, call setup and feature invocation are adversely affected. Therefore, we believe there is merit in reducing these message sizes.

The result is the SigComp. SigComp is typically offered to applications as a "shim" layer between the application and the transport. The service provided is that of the underlying transport plus compression. In the SigComp architecture compression and decompression is performed at two communicating entities. If an entity wants to send a message to the other entity, then the first compresses the message, sends to the another and the other decompresses the message.

The main parts of the SigComp are: the Compressor, the Decompressor (Universal Decompressor Virtual Machine), the Dispatcher and the State Handler.

In our presentation we would like to show our SigComp implementation and present an algorithm for choosing the best compressing method based on transferred data.