



draft-duric-rtp-ilbc-00

email/SIP: [alan.duric@globalipsound.com](mailto:alan.duric@globalipsound.com)



## iLBC - IETF work

- IETF deliverables, submitted during February '02:
  - iLBC codec specification draft - experimental standards track
  - iLBC RTP Payload Profile - regular standards track (AVT)
  - Statement about IPRs in ILBC and its “freeware nature”
- Dynastat results submission to the AVT mailing list



## iLBC (internet Low Bitrate Codec)

- Speech sampled at 8 kHz,
- using a block-independent linear-predictive coding (LPC) algorithm.
- Bandwidth 13.967 kbps (53 bytes per 30 ms)
- Frame size 30 ms (support for 20 ms in the next revision)
- Complexity and memory requirements are similar to ITU G.729A
- Basic Quality is equal to or better than G.729. Packet loss robustness is significantly better than G.729.
- Packet loss concealment - Integrated example solution



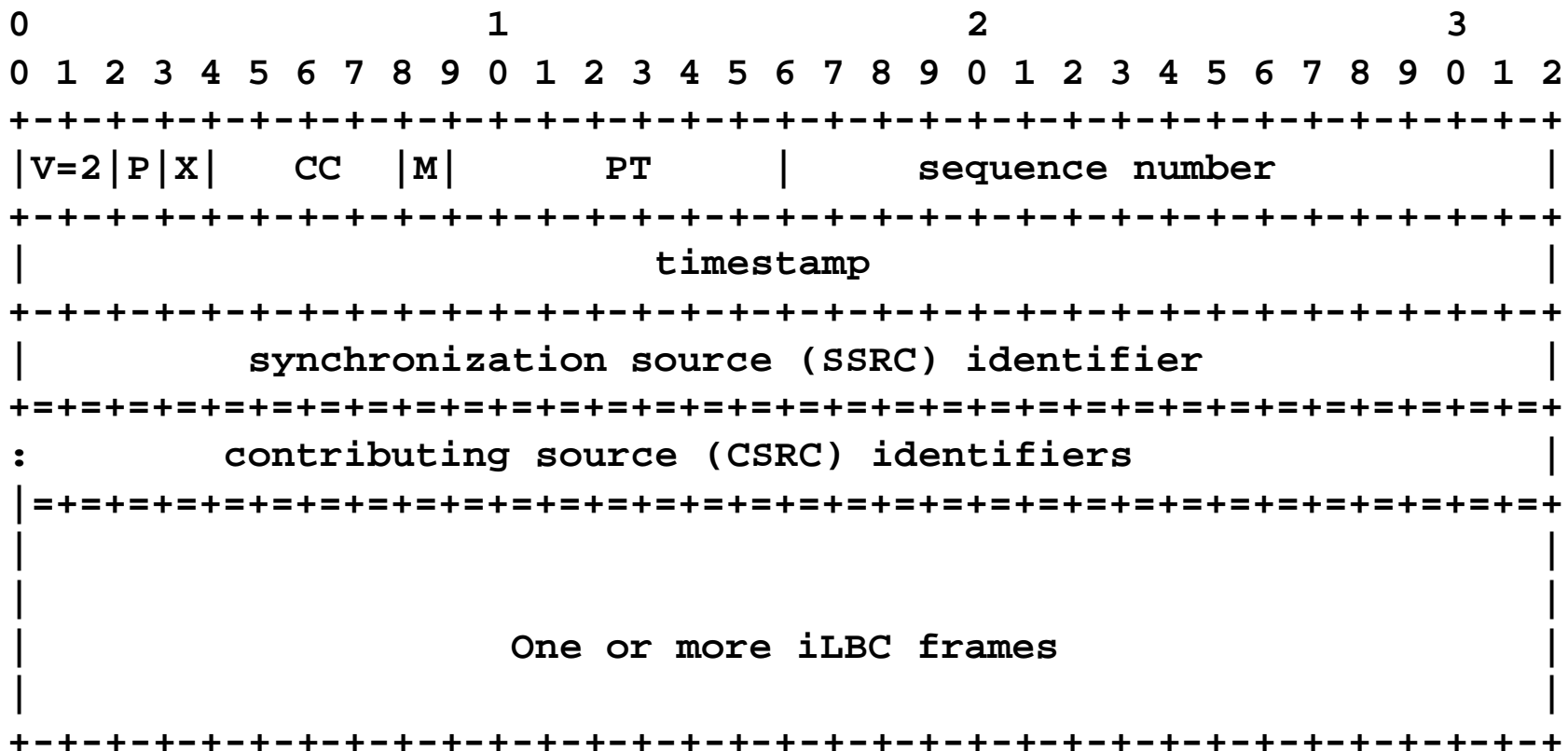
## Why iLBC !?



- Current low bit rate codecs: ITU G.729, G.723.1, GSM-EFR, and 3GPP-AMR were developed for circuit switched & wireless telephony and are all based on the CELP (Code Excited Linear Prediction) paradigm.
- CELP coders are stateful, they have memory, error propagation results from lost or delayed packets.
- iLBC treats every packet individually, making it suitable for packet communications.

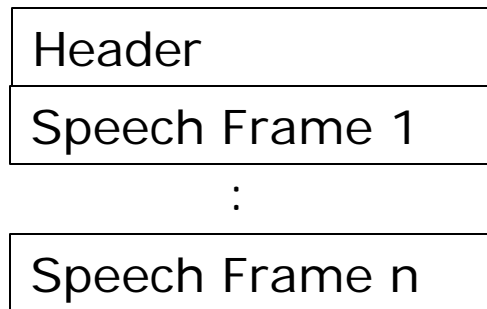


# Transport of iLBC frames





## Storage mode



- The file begins with a header that includes only a magic number to identify that it is an iLBC file.
- The magic number for iLBC file MUST correspond to the ASCII character string "#!iLBC\n", or "0x23 0x21 0x69 0x4C 0x42 0x43 0x0A" in hexadecimal form.



## SDP parameters

**m = <media> <port> <transport> <payload list>**  
**<media>** application  
**<port>** is the port number  
**<transport>** RTP/AVP  
**<payload list>** dynamic payload number

**a = rtpmap:<payload> <encoding name>**  
**<payload>** is the dynamic payload number  
**<encoding name>** iLBC indicates iLBC stream.

**Example:**

**m = audio 49120 RTP/AVP 97**  
**a = rtpmap:97 iLBC**



# MIME Type registration

MIME media type name: *audio*

MIME subtype: *iLBC*

Optional parameters:

*maxptime*: The maximum amount of media which can be encapsulated in a payload packet, expressed as time in milliseconds. The time is calculated as the sum of the time the media present in the packet represents. The time **MUST** be a multiple of the frame size of RTP packet.