**static** [**bool**](http://lxr.free-electrons.com/ident?i=bool)[**ip\_exceeds\_mtu**](http://lxr.free-electrons.com/ident?i=ip_exceeds_mtu)**(const struct** [**sk\_buff**](http://lxr.free-electrons.com/ident?i=sk_buff) **\***[**skb**](http://lxr.free-electrons.com/ident?i=skb)**, unsigned int** [**mtu**](http://lxr.free-electrons.com/ident?i=mtu)**)**

**{**

**if (**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**->**[**len**](http://lxr.free-electrons.com/ident?i=len) **<=** [**mtu**](http://lxr.free-electrons.com/ident?i=mtu)**)**

**return** [**false**](http://lxr.free-electrons.com/ident?i=false)**;**

**if (**[**unlikely**](http://lxr.free-electrons.com/ident?i=unlikely)**((**[**ip\_hdr**](http://lxr.free-electrons.com/ident?i=ip_hdr)**(**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**)->frag\_off &** [**htons**](http://lxr.free-electrons.com/ident?i=htons)**(**[**IP\_DF**](http://lxr.free-electrons.com/ident?i=IP_DF)**)) == 0))**

**return** [**false**](http://lxr.free-electrons.com/ident?i=false)**;**

***/\* original fragment exceeds mtu and DF is set \*/***

**if (**[**unlikely**](http://lxr.free-electrons.com/ident?i=unlikely)**(**[**IPCB**](http://lxr.free-electrons.com/ident?i=IPCB)**(**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**)->frag\_max\_size >** [**mtu**](http://lxr.free-electrons.com/ident?i=mtu)**))**

**return** [**true**](http://lxr.free-electrons.com/ident?i=true)**;**

**if (**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**->ignore\_df)**

**return** [**false**](http://lxr.free-electrons.com/ident?i=false)**;**

**if (**[**skb\_is\_gso**](http://lxr.free-electrons.com/ident?i=skb_is_gso)**(**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**) &&** [**skb\_gso\_network\_seglen**](http://lxr.free-electrons.com/ident?i=skb_gso_network_seglen)**(**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**) <=** [**mtu**](http://lxr.free-electrons.com/ident?i=mtu)**)**

**return** [**false**](http://lxr.free-electrons.com/ident?i=false)**;**

**return** [**true**](http://lxr.free-electrons.com/ident?i=true)**;**

**}**

**This function is used to check whether ip socket buffer (skb) exceeds mtu(maximum transmission unit)**

**static** [**bool**](http://lxr.free-electrons.com/ident?i=bool)[**ip\_exceeds\_mtu**](http://lxr.free-electrons.com/ident?i=ip_exceeds_mtu)**(const struct** [**sk\_buff**](http://lxr.free-electrons.com/ident?i=sk_buff) **\***[**skb**](http://lxr.free-electrons.com/ident?i=skb)**, unsigned int** [**mtu**](http://lxr.free-electrons.com/ident?i=mtu)**)**

In this function definition socket buffer (sk\_buff) and mtu (maximum transmission unit) are taken as input parameters for the function.

**if (**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**->**[**len**](http://lxr.free-electrons.com/ident?i=len) **<=** [**mtu**](http://lxr.free-electrons.com/ident?i=mtu)**)**

**return** [**false**](http://lxr.free-electrons.com/ident?i=false)**;**

The total number of bytes in the packet is 'len'. So skb length is less than mtu then function returns false.

**if (**[**unlikely**](http://lxr.free-electrons.com/ident?i=unlikely)**((**[**ip\_hdr**](http://lxr.free-electrons.com/ident?i=ip_hdr)**(**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**)->frag\_off &** [**htons**](http://lxr.free-electrons.com/ident?i=htons)**(**[**IP\_DF**](http://lxr.free-electrons.com/ident?i=IP_DF)**)) == 0))**

**return** [**false**](http://lxr.free-electrons.com/ident?i=false)**;**

**#define** [**IP\_DF**](http://lxr.free-electrons.com/ident?i=IP_DF) **0x4000 */\* Flag: "Don't Fragment" \*/***

Here It is preprocessor macro and unlikely condition is executed and comes out to be zero then function returns false i.e not exceeded. Here ip\_hdr is refering to fragment offset whether equal to zero as it will certainly results in skb less than size of mtu.

***/\* original fragment exceeds mtu and DF is set \*/***

**if (**[**unlikely**](http://lxr.free-electrons.com/ident?i=unlikely)**(**[**IPCB**](http://lxr.free-electrons.com/ident?i=IPCB)**(**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**)->frag\_max\_size >** [**mtu**](http://lxr.free-electrons.com/ident?i=mtu)**))**

**return** [**true**](http://lxr.free-electrons.com/ident?i=true)**;**

**#define** [**IPCB**](http://lxr.free-electrons.com/ident?i=IPCB)**(**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**) ((struct** [**inet\_skb\_parm**](http://lxr.free-electrons.com/ident?i=inet_skb_parm)**\*)((**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**)->**[**cb**](http://lxr.free-electrons.com/ident?i=cb)**))**

So IPCB is defined as preprocessor macro as above and skb -> cb refers to SKB control block. It is an storage area usable by protocols, and to store private per-packet information.

Skb’s control block ‘s fragment max\_size is grater than mtu it is obvious that it exceeded mtu.So it returns true here.

**if (**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**->ignore\_df)**

**return** [**false**](http://lxr.free-electrons.com/ident?i=false)**;**

If socket buffer skb’s ignoring don’t fragment bit is set i.e true then it refers to not exceeding mtu. So condition returns false.

**if (**[**skb\_is\_gso**](http://lxr.free-electrons.com/ident?i=skb_is_gso)**(**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**) &&** [**skb\_gso\_network\_seglen**](http://lxr.free-electrons.com/ident?i=skb_gso_network_seglen)**(**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**) <=** [**mtu**](http://lxr.free-electrons.com/ident?i=mtu)**)**

**return** [**false**](http://lxr.free-electrons.com/ident?i=false)**;**

skb\_gso\_network\_seglen - Return length of individual segments of a gso packet

Skb\_gso\_network\_seglen is used to determine the real size of the individual segments, including Layer3 (IP, IPv6) and L4 headers (TCP/UDP).

The gso\_size is the size the hardware should fragment the TCP data. And [**skb\_is\_gso**](http://lxr.free-electrons.com/ident?i=skb_is_gso)**(**[**skb**](http://lxr.free-electrons.com/ident?i=skb)**) returns**

**Gso\_type and skb\_gso\_TCPV6. If both of them are less than or equal to mtu ,**

**Function returns false.**

**return** [**true**](http://lxr.free-electrons.com/ident?i=true)**;**

If any of the conditions are not satisfied , whole of the function returns true i.e ie ip socket buffer skb has exceeds mtu.