Illustarative Example of Issue with RFC3168 Fragment Reassembly

	F	N		F	N		F	N		F	N	
Number of packets	100	100		200	100		200	100		100	100	
Number of CE marks	0	0		0	0		4	2		3.96	2	
Proportion of marked packets	0%	0%		0%	0%		2%	2%		**3.96%**	2%	CE-mark packet
									RFC3168			if any fragment CE-marked
Number of bytes	150000	148000		154000	150000		154000	150000		150000	148000	
Number of CE bytes	0			0	0		3080	3000		5940	2960	
Proportion of CE bytes	0%	0%		0%	0%		2%	2%		**3.96%**	2%	

source → encap & fragmentation → AQM (2% marking) → decap & reassembly → destination
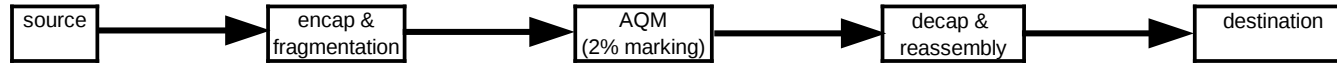
										F	N	
Number of packets										100	100	
Number of CE marks										2.03	2	
Proportion of marked packets				. . . . no different to RFC3168						**2.03%**	2%	preserve CE-marked bytes (excluding outer headers)
									Proposed			or
Number of bytes										150000	148000	preserve CE-marking probability
Number of CE bytes										3040	2960	
Proportion of CE bytes										**2.03%**	2%	

Legend
* Flow type F (will be **F**ragmented), with 1500B packets (including one IP header) before tunnelling.
* Flow type N (will **N**ot be fragmented), with 1480B packets (including one IP header) before tunnelling.
In both cases, tunnel encap adds an extra 20B IPv4 header.
The MTU of the tunnel ingress is assumed to be 1500B.
Layer-2 headers are not counted.

The schamtic tracks 100 packets sent by each flow over the same duration in parallel along the same path.
The metrics given are accurate to decimal fractions of packets, even tho that's obviously not possible.