

TCP ECN flags

Implementation		TCP			TCP			TCP			f/b mode		Legend				
C	S	NS	CWR	ECE	NS	CWR	ECE	NS	CWR	ECE	C → S	S → C					
		SYN C → S			SYN-ACK S → C			ACK C → S									
D	{D,E,N,A}	0	0	0	0	0	0	0	0	0	D			C Client			
{E,N}	D	0	1	1	0	0	0	0	0	0	D			S Server			
E	{E,A}	0	1	1	0	0	1	0	0	X	E						
	N				N						E	N					
N	{E,A}	0	1	1	0	0	1	1	0	X	E						
	N				N						N	N					
A	D	1	1	1	0	0	1	0	0	X	D						
A	E				0						0	X	E				
	N	1	1	1	1	0	1	1	1	X	A						
A	A				X						1	0	1-5		A-CU		
A	A	1	1	1	0	1	1	0	0	0	A	D					
A-CU	A				0						1	1	A-CU				
A	A-CU	1	1	1	1	0	0	0	0	0	A-CU						
					1						0	0	A-CU				
<b>Unspecified combinations</b>																	
CU	D	X	X <sub>1</sub>	!X <sub>1</sub>	0	0	0				D						
		1	0	0							D						
CU	D (broken)	>0			reflected						D						
CU	CU	X	X <sub>1</sub>	!X <sub>1</sub>	>0 & !(reflected)						CU						
		1	0	0							CU						
D	invalid	0	0	0	>0						invalid						
E	invalid	0	1	1	1	0	0				invalid						
D-invalid	D	0	0	0	0	0	0				invalid						
E-invalid		0	1	1									>0				
A-invalid		1	1	1									>1				
A-invalid	{E,N}	1	1	1	X	0	1	>1			invalid						
E	invalid	0	1	1	0	1	0				invalid						
					1		X						invalid				
E-invalid	{E,N}	0	1	1	X	0	1	X	1	X	invalid						

IP ECN

Implementation		IP ECN		IP ECN		IP ECN		f/b mode		IP ECN		IP ECN		IP ECN		IP ECN		
C	S	SYN C→S		SYN-ACK S→C		ACK C→S		C→S	S→C	Ctrl C→S		Data C→S		Ctrl S→C		Data S→C		
		!G	G	!{P,G}	{P,G}	!G	G			!G	G			!G	G			
D	{D,E,N,A}	00	00	00	00	00	00	D		00				00				
{E,N}	D																	
A	D		{1X,X1}															
E	{E,A}	00	00	00	{1X,X1}	00	{1X,X1}	E	N	E	00	{1X,X1}	Nonce	00	{1X,X1}	Nonce	{1X,X1}	
	N																	
N	E																	
	N	00	00	00	{1X,X1}	00	{1X,X1}	E	N	N	00	{1X,X1}	Nonce	00	{1X,X1}	Nonce	{1X,X1}	
	A																	
A	{E,N}																	
	A	00	00	00	{1X,X1}	00	{1X,X1}	E	E	A	00	{1X,X1}	Nonce	00	{1X,X1}	Nonce	{1X,X1}	
A	A																	
<b>Legend</b>																		
	C	Client																
	S	Server																
	D	Drop (non-ECN)																
	E	ECN [RFC3168]																
	N	ECN Nonce [RFC3540]																
	A	AccECN [BKS17]																
	P	ECN Plus [RFC5562]																
	G	Generalized ECN [BB17]																
	!G	Not G																
	Ctrl	Control packets (see text)																
	X	0 OR 1																
	{1X,X1}	Solely 1X or X1 in a flow																
	Nonce	1X and X1 in a flow																