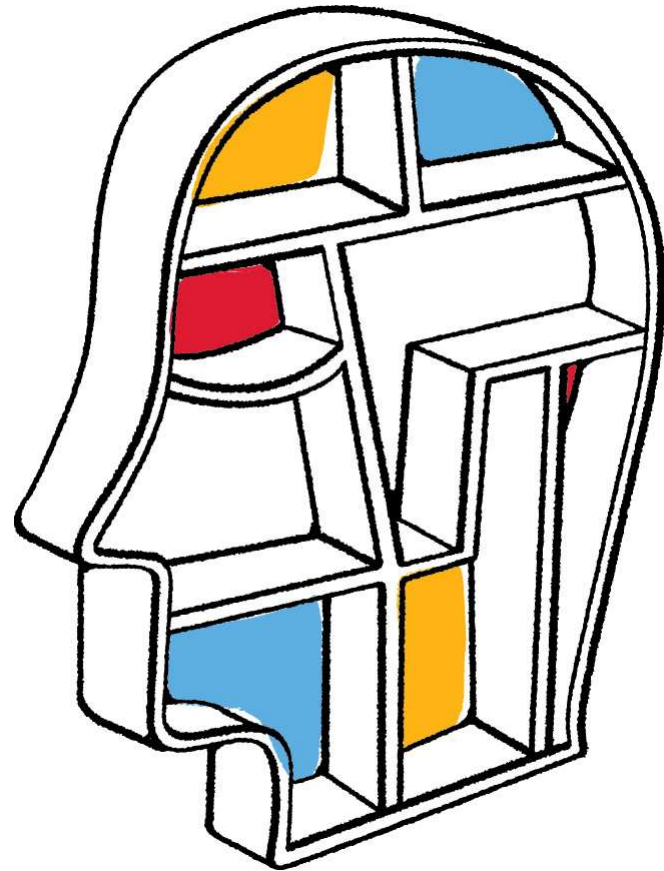


Accurate ECN Feedback

Mirja Kühlewind

Richard Scheffenegger



tools.ietf.org/html/draft-kuehlwind-tcpm-accurate-ecn-02

AccECN – since IETF86

- Focus on codepoint variant
- Added auxiliary field to improve accuracy
 - Useful for ACK compression (TCP offload) and ACK loss
 - Not strictly required
 - Encoded in unused URG field

Auxiliary data (URG field)

- Only encoded when URG-flag NOT set
- Lowest 4 bits of URG field
- encodes number of overflows of the accompanying codepoint counter
 - regular binary counter
 - 5 (3) base codepoints (last “digit”)
- Remaining bits unused (reserved)
 - new IANA registry

Accurate TCP ECN feedback

+	+	+	+	+	+	+	+						
	ECI		NS		CWR		ECE		CI (base5)		E1 (base3)		+
	0		0		0		0		0				+
	1		0		0		1		1				+
	2		0		1		0		2				+
	3		0		1		1		3				+
	4		1		0		0		4				+
	5		1		0		1				0		+
	6		1		1		0				1		+
	7		1		1		1				2		+

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	Reserved												Top ACE			
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

Figure 4: The (post ECN Nonce) definition of the TCP header flags



Other

- Editorial Text adapted.
- Nonce codepoint support not mandatory in current draft
 - No additional, explicit negotiation mechanism possible under current ECN framework

- Q: Allow implicit use,
 - Or mandate AccECN TCP must support Nonce.

Thank you

