TCP Usage Guidance in the Internet of Things

draft-ietf-lwig-tcp-constrained-node-networks-03

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Goal of the draft

- NOT to define a new TCP version
- NOT to define new TCP mechanisms

- Describing how TCP can be used/configured/implemented in CNNs
  - Related trade-offs

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Annex. Summary table

		uIP	lwIP orig	lwIP 2.0	RIOT	OpenWSN	TinyOS	FreeRTOS	uC/OS
Memory	Code size (kB)	<5 (a)	~9 to ~14 (T1)	~40 (b)	<7 (T3)	N/A	N/A	<9.2 (T2)	N/A
TCP features	Win size (MSS)	1	Mult.	Mult.	1	1	Mult.	Mult.	Mult.
	Slow start	No	Yes	Yes	No	No	Yes	No	Yes
	Fast rec/retx	No	Yes	Yes	No	No	Yes	No	Yes
	Keep-alive	No	No	Yes	No	No	No	Yes	Yes
	Win. Scale	No	No	Yes	No	No	No	Yes	No
	TCP timest.	No	No	Yes	No	No	No	Yes	No
	SACK	No	No	Yes	No	No	No	Yes	No
	Del. ACKs	No	Yes	Yes	No	No	No	Yes	Yes
	Socket	No	No	Optional (I)		Yes	Subset	Yes	Yes
	Concur. Conn.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(T1) = TCP-only, on x86 and AVR platforms
(T2) = TCP-only, on ARM Cortex-M platform
(T3) = TCP-only, on ARM Cortex-M0+ platform (NOTE: RAM usage for the same platform is ~2.5 kB for one TCP connection plus ~1.2 kB for each additional connection)
(a) = includes IP, ICMP and TCP on x86 and AVR platforms
(b) = the whole protocol stack on mbed
(I) = interface inspired by POSIX
Mult. = Multiple
N/A = Not Available

Please provide your comments

Thanks!!