

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	~9 to ~14	~40	<7	N/A	N/A	<9.2	N/A
		(a)	(T1)	(b)	(T3)			(T2)	
	Win size (MSS)	1	Mult.	Mult.	1	1	Mult.	Mult.	Mult.
	Slow start	No	Yes	Yes	No	No	Yes	No	Yes
T	Fast rec/retx	No	Yes	Yes	No	No	Yes	No	Yes
C	Keep-alive	No	No	Yes	No	No	No	Yes	Yes
P	Win. Scale	No	No	Yes	No	No	No	Yes	No
f	TCP timest.	No	No	Yes	No	No	No	Yes	No
e	SACK	No	No	Yes	No	No	No	Yes	No
a	Del. ACKs	No	Yes	Yes	No	No	No	Yes	Yes
t	Socket	No	No	Optional	(I)	Yes	Subset	Yes	Yes
u	Concur. Conn.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r									
e									
s									

(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!!