

ThePrimerwithLinks

• systems needs

• Undoubtedly-not-real-time safe

• Verify with RTS and

• spinlocks(user-space)

• Threreadstardivotion

• Priority inversion

• Don't scale (thread contention)

The Problem with Locks

- System calls
 - Unbounded - not real-time safe
 - Verify with RTSan
- Spin locks (user-space)
 - Thread starvation
 - Priority inversion
 - Don't scale (thread contention)

Simple Behaviour

SPSC

push	Block on full*	Overwrite when full	Fail/try_
pop	Block on empty*	Return default on empty	Fail/try_
capacity	Static (compile-time)	Fixed (runtime)	Dynamic (grows)
Bulk push/pop	No - single item	Yes - multiple items	
Message size	Fixed	Dynamic	
Message size limit	Limited (8 bytes?)	Unlimited	
Triviality	Trival	Non-trivial	
Gurantees	None - blocking	Lock-free	Wait-free
Num processes	Single	Inter-process	