

Planetary Scale Byzantine Consensus

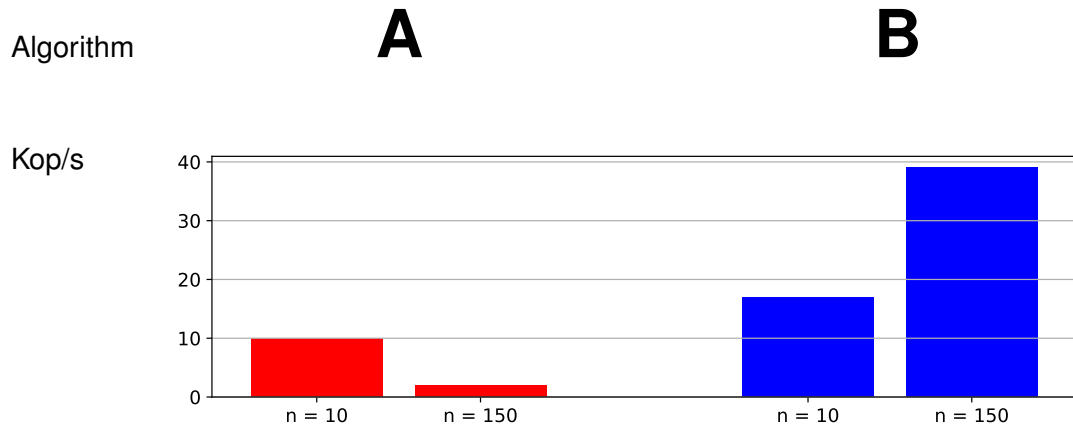
Vincent Gramoli

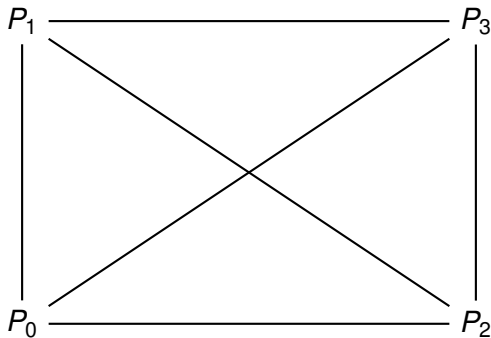
Gauthier Voron

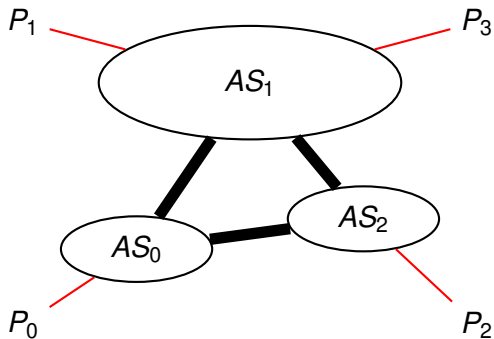
2023-06-19

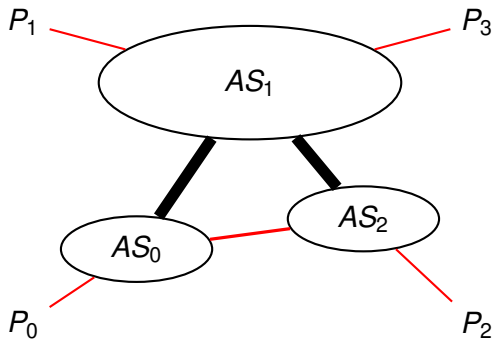
EPFL

Algorithm	A	B
Best	$O(n)$	$O(n^2)$
Worst	$O(n^3)$	$O(n^4)$

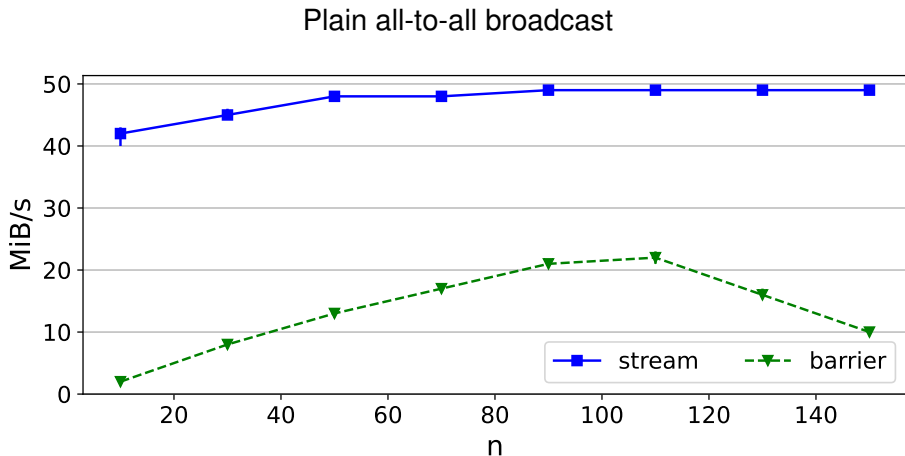




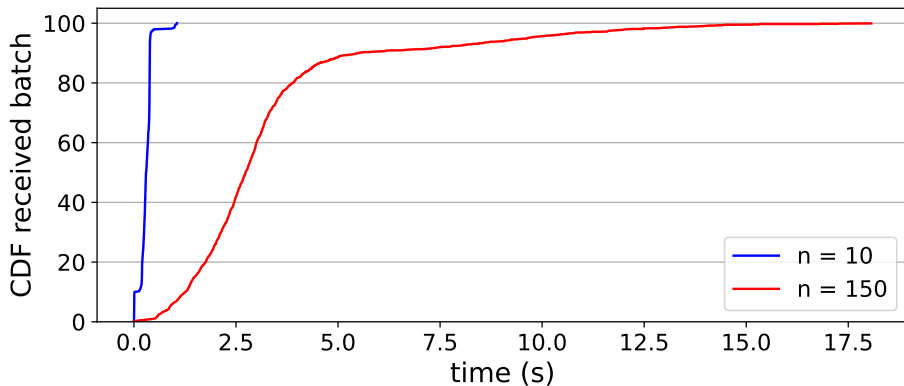


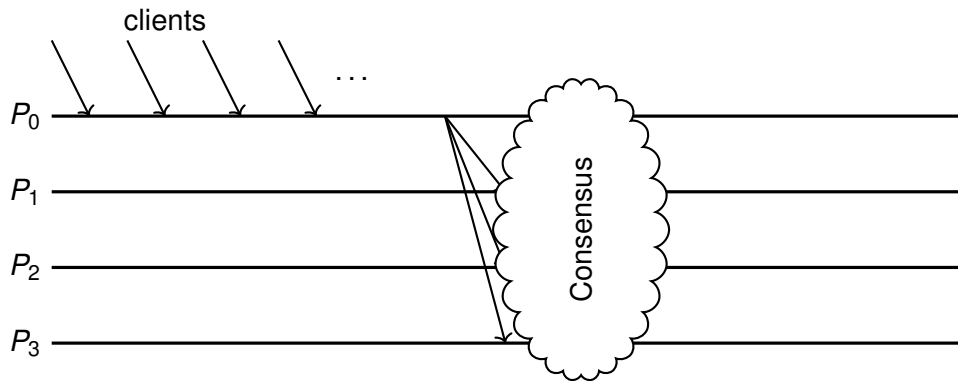


Bandwidth: the hiccup problem

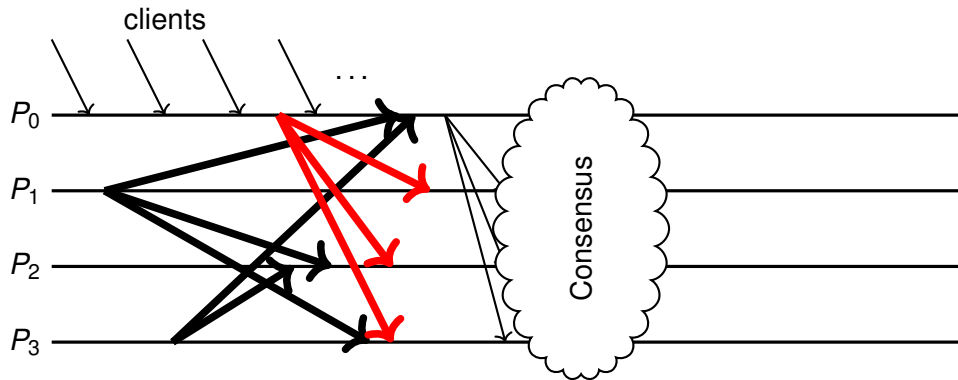


Plain all-to-all broadcast

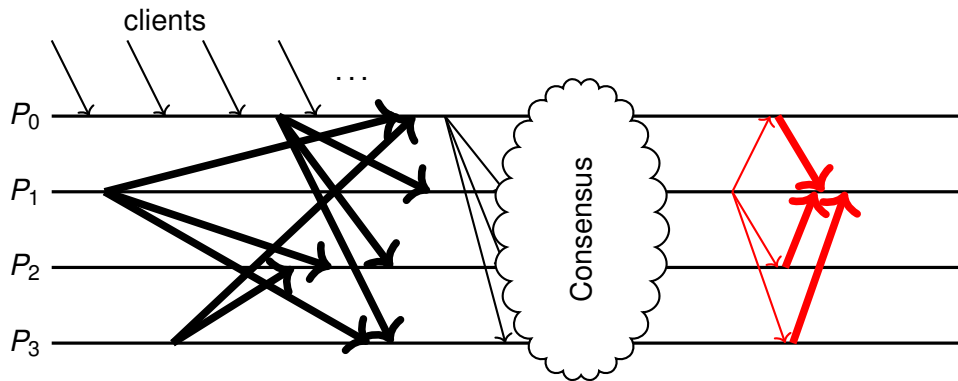


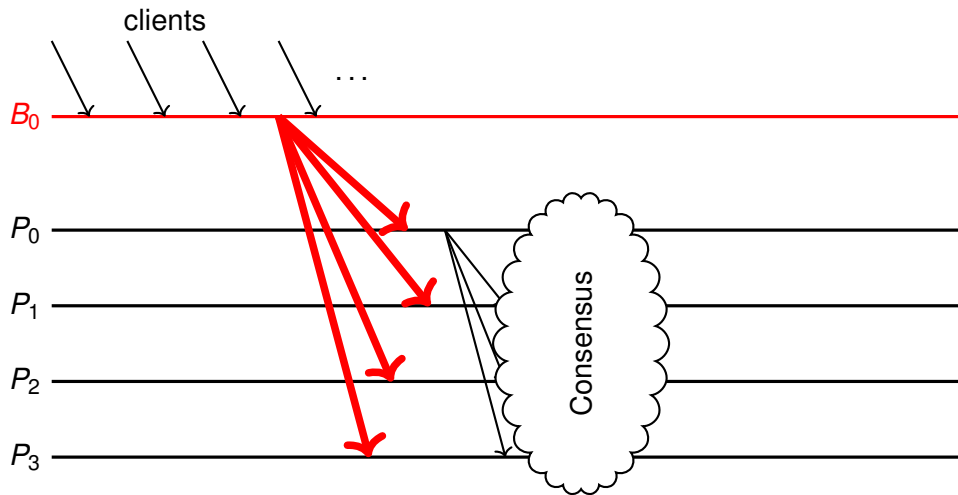


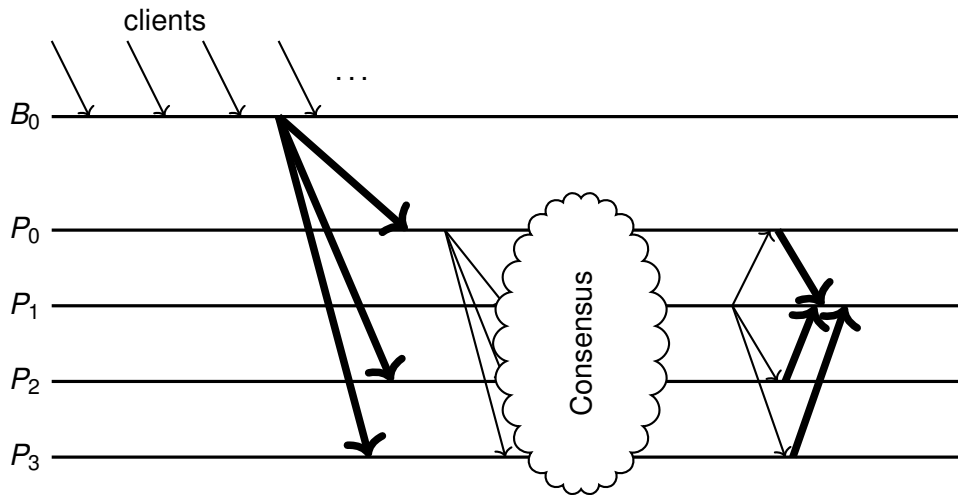
Current solutions: mempool



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Conclusion

- Bit complexity \neq Throughput
- Hiccups = lower Throughput
- use Mempool / Brokers