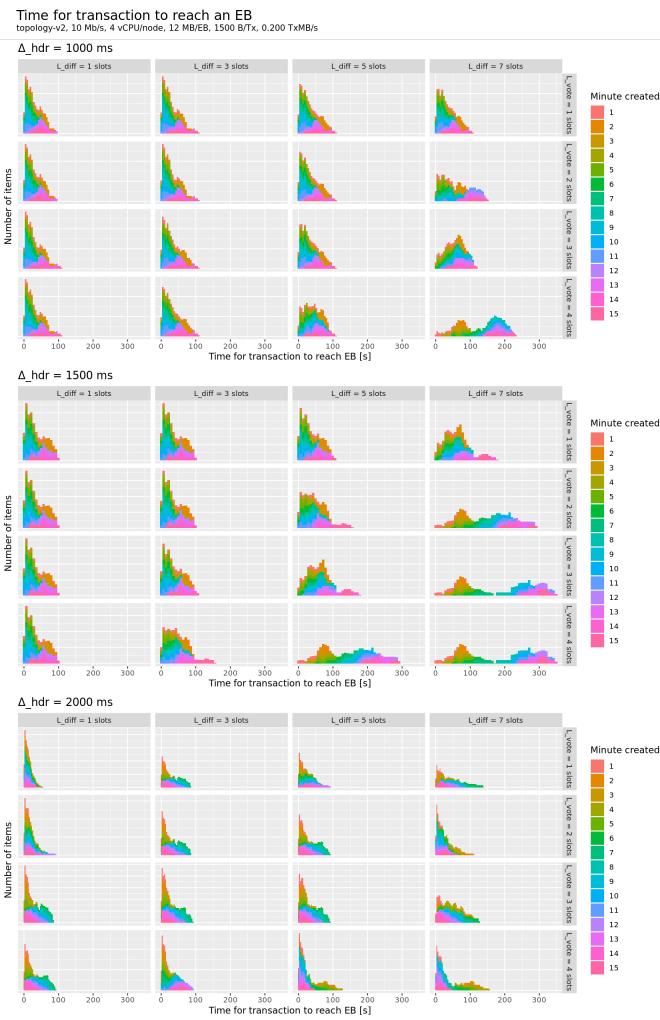
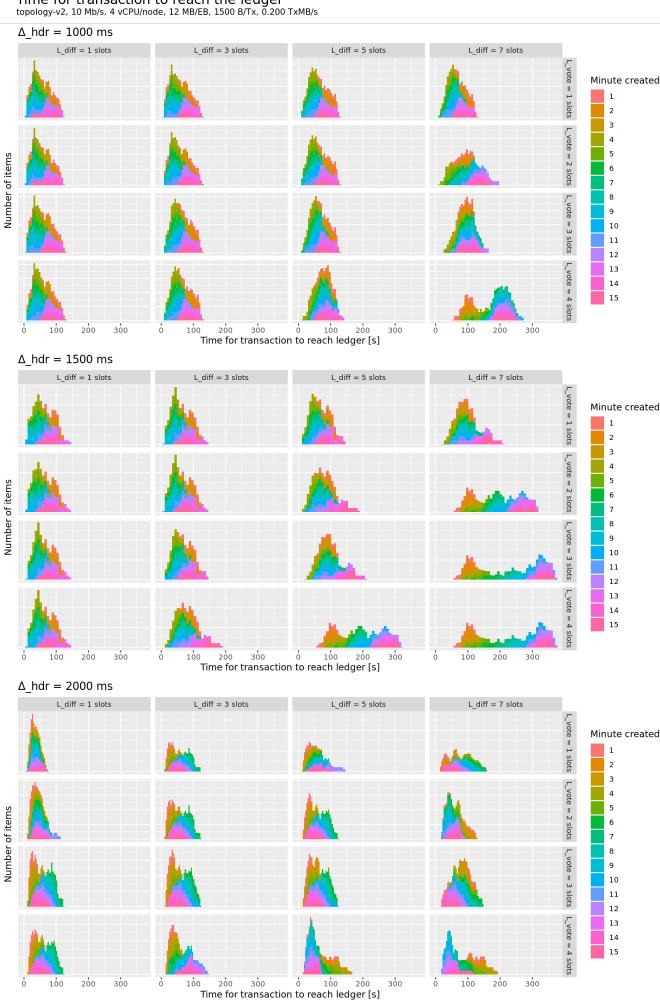
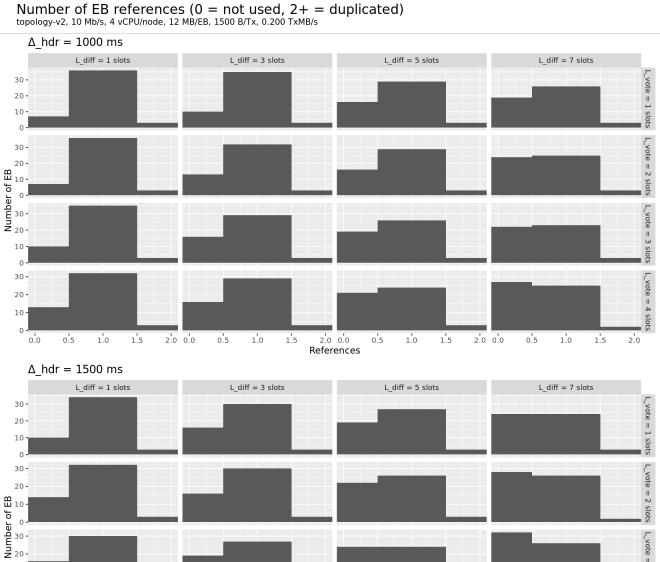
Size of diffused data topology-v2, 10 Mb/s, 4 vCPU/node, 12 MB/EB, 1500 B/Tx, 0.200 TxMB/s L\_diff = 1 slots L\_diff = 3 slots L\_diff = 5 slots L\_diff = 7 slots 300 **-**L\_vote = 1 slots 200-100-300 -L\_vote = 2 slots 200 **-**100-Message Size [kB/s] ЕВ RB ТХ 300 -L\_vote = 3 slots 200-100-300 -L\_vote = 4 slots 200-100- $\Delta$ \_hdr = 1000 ms - $\Delta$  hdr = 1000 ms- $\Delta$  hdr = 1000 ms - $\Delta$  hdr = 1000 ms - $\Delta$  hdr = 2000 ms - $\Delta_{hdr} = 2000 \text{ ms}$ △ hdr = 1500 ms - $\Delta_{hdr} = 2000 \text{ ms}$  $\Delta$ \_hdr = 1500 ms- $\Delta$ \_hdr = 1500 ms- $\Delta$  hdr = 1500 ms - $\Delta_h dr = 2000 \text{ ms} -$ 

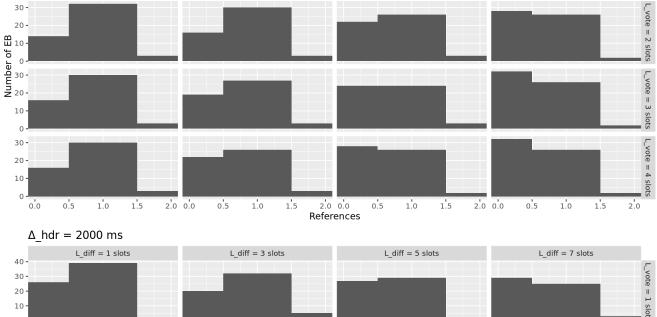
Spatial efficiency (size of txs on ledger / size of non-tx persisted data) topology-v2, 10 Mb/s, 4 vCPU/node, 12 MB/EB, 1500 B/Tx, 0.200 TxMB/s L\_diff = 1 slots L\_diff = 3 slots L\_diff = 5 slots L\_diff = 7 slots 100-75 L\_vote = 1 slots 50-25 **-**100-75 L\_vote = 2 slots 50 **-**25 Space efficiency [%] 75 -L\_vote = 3 slots 50 -25 -100-75 L\_vote = 4 slots 50 -25 **-**0 - $\Delta$  hdr = 2000 ms - $\Delta_{hdr} = 2000 \text{ ms}$  $\Delta$  hdr = 1000 ms - $\Delta_h dr = 2000 \text{ ms}$  $\Delta$  hdr = 1000 ms- $\Delta$  hdr = 1000 ms - $\Delta$  hdr = 1000 ms - $\Delta$  hdr = 1500 ms- $\Delta$ \_hdr = 1500 ms- $\Delta$  hdr = 2000 ms- $\Delta$  hdr = 1500 ms- $\Delta$ \_hdr = 1500 ms-

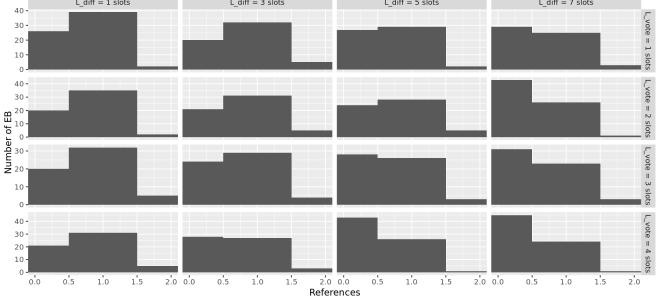


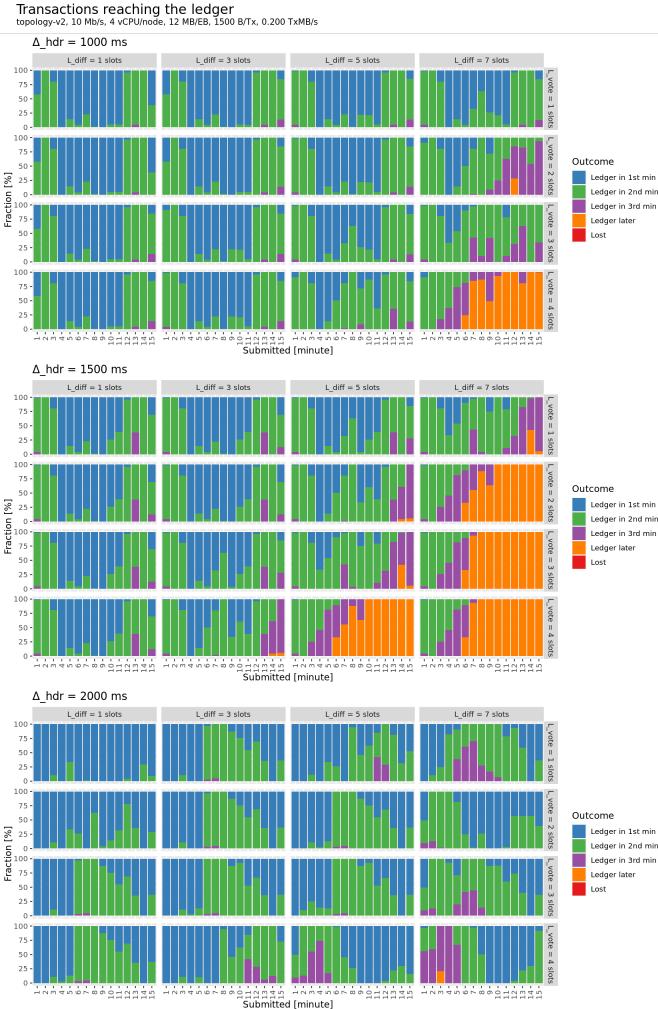
# Time for transaction to reach the ledger topology-v2, 10 Mb/s, 4 vCPU/node, 12 MB/EB, 1500 B/Tx, 0.200 TxMB/s

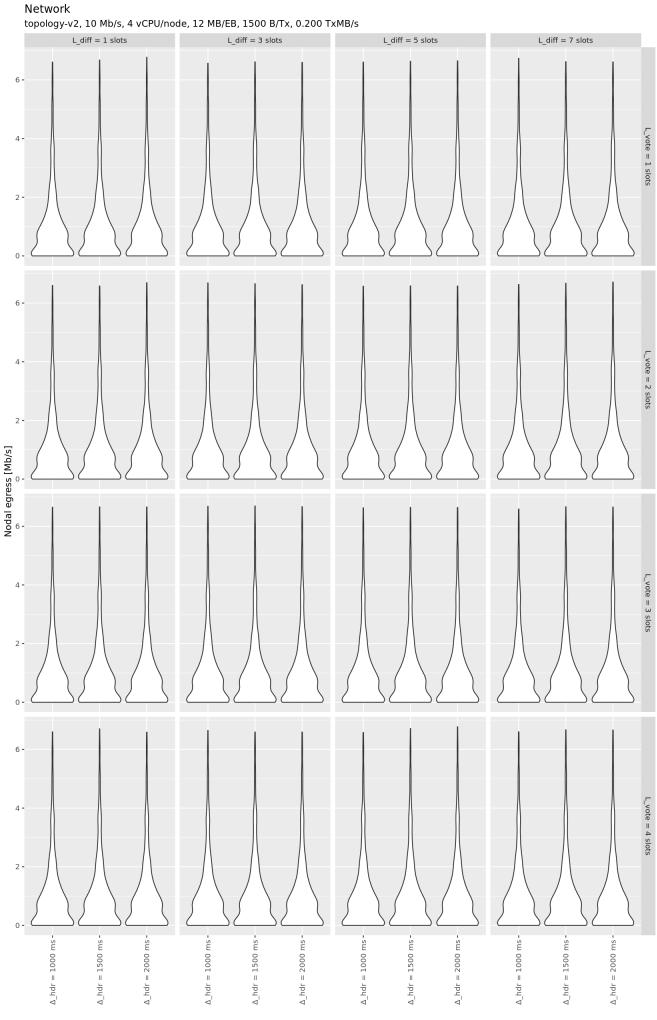




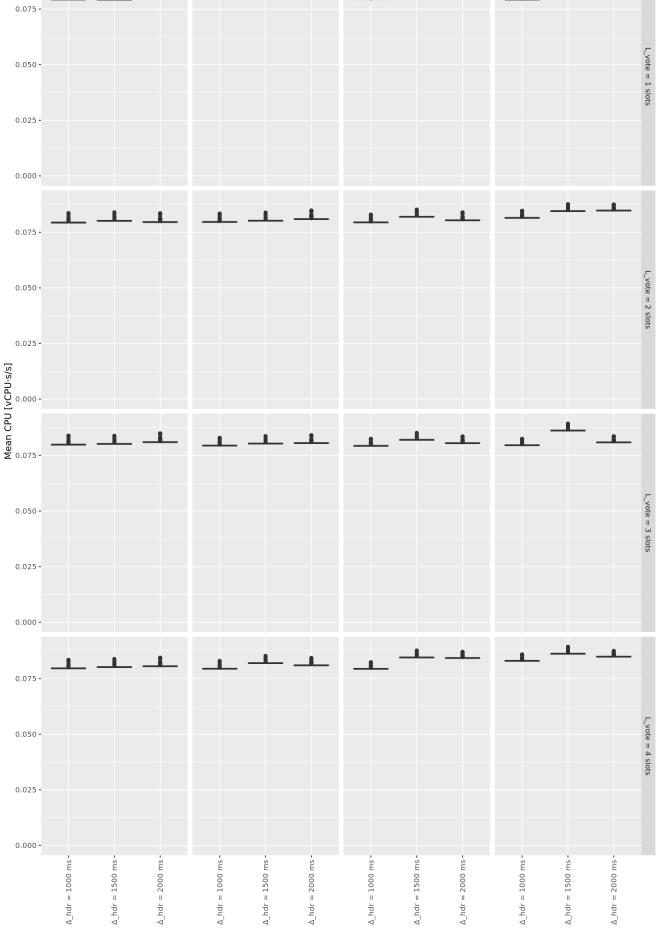


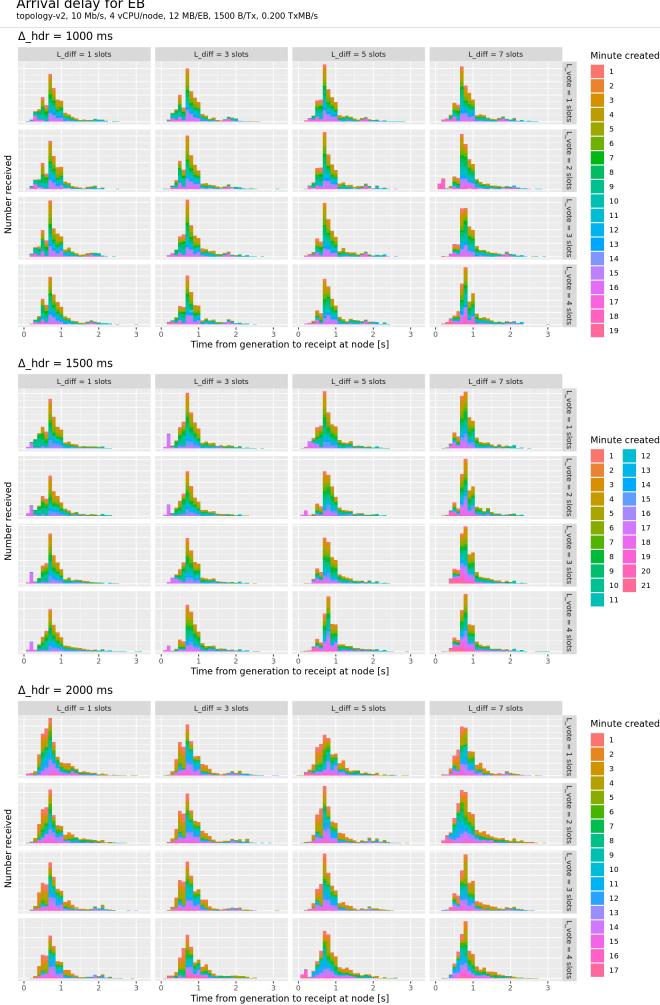






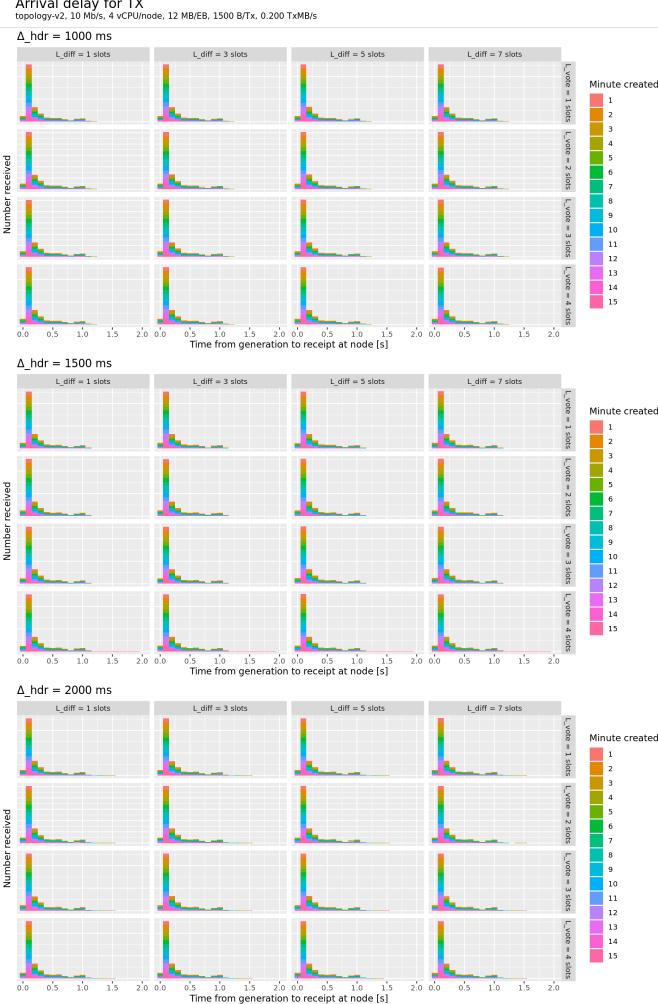
1-Second Peak CPU topology-v2, 10 Mb/s, 4 vCPU/node, 12 MB/EB, 1500 B/Tx, 0.200 TxMB/s  $\,$ L\_diff = 5 slots L\_diff = 7 slots 1.2 ... • 0.9 0.3 0.0 1.2 -0.6 1-Second peak CPU [vCPU·s/s] 0.6 0.3 -0.0 1.2 -0.6 0.3 0.0 - $\Delta$ \_hdr = 1000 ms-Δ\_hdr = 2000 ms - $\Delta$ \_hdr = 1500 ms - $\Delta$  hdr = 1500 ms - $\Delta$  hdr = 1000 ms - $\Delta_{hdr} = 2000 \text{ ms}$  $\Delta_hdr = 1000 \text{ ms}$  $\Delta_hdr = 1500 \text{ ms}$  $\Delta$  hdr = 2000 ms - $\Delta_hdr = 1000 \text{ ms}$  $\Delta_hdr = 1500 \text{ ms}$  $\Delta$ \_hdr = 2000 ms -

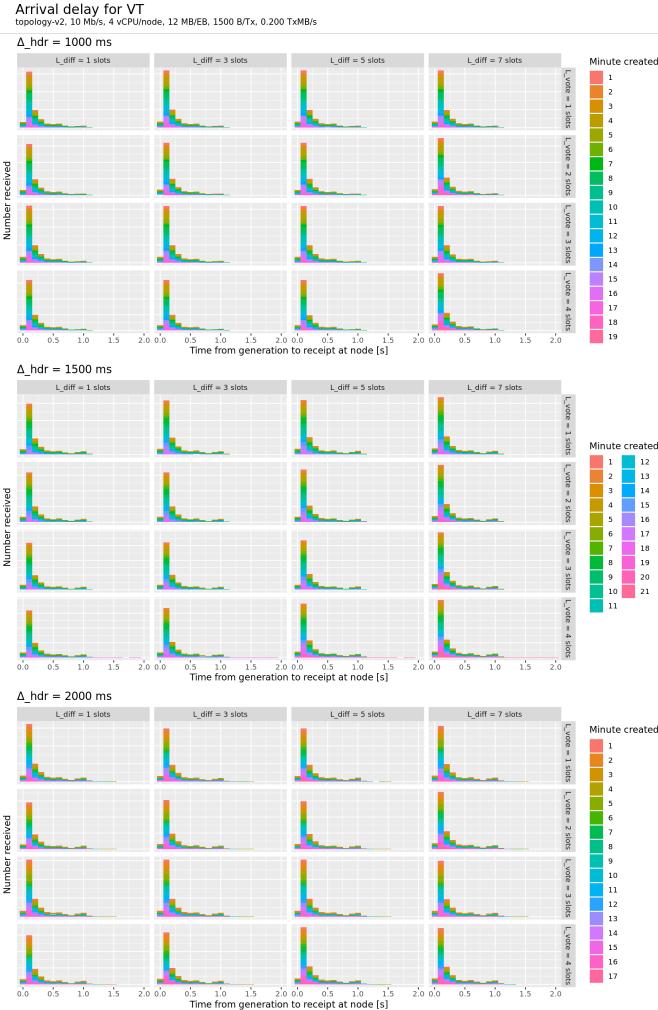


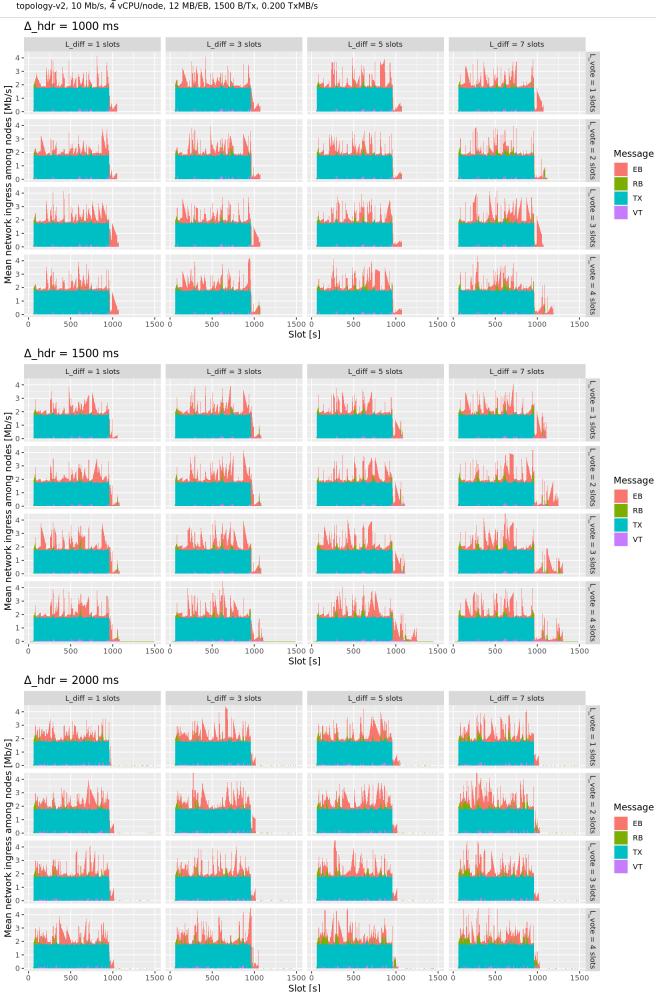


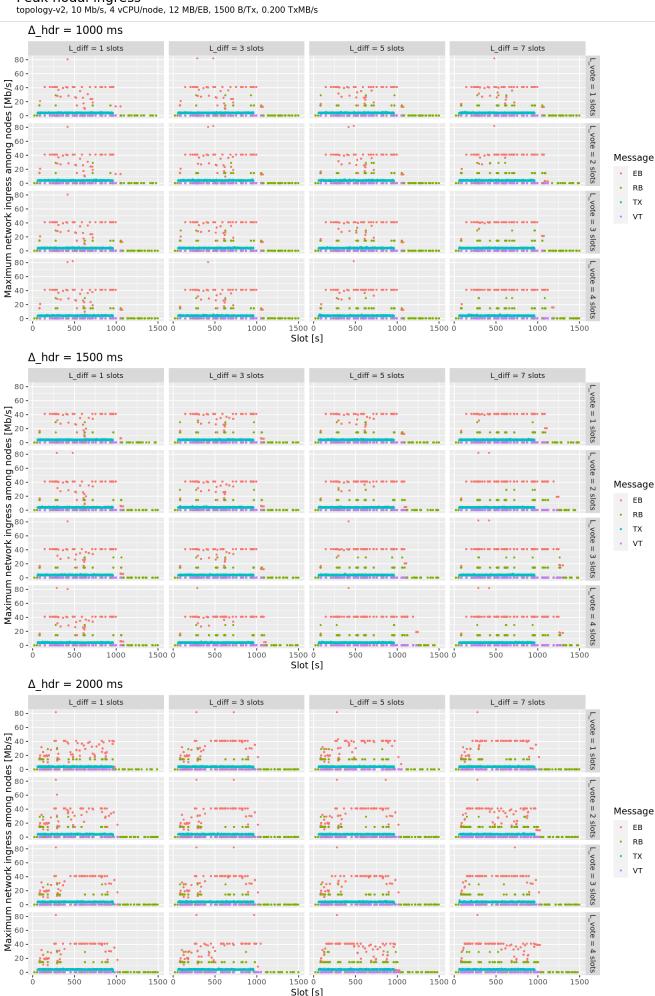
Arrival delay for RB topology-v2, 10 Mb/s, 4 vCPU/node, 12 MB/EB, 1500 B/Tx, 0.200 TxMB/s  $\Delta$ \_hdr = 1000 ms L\_diff = 1 slots L\_diff = 3 slots L\_diff = 5 slots L\_diff = 7 slots  $L_{vote} = 1 \text{ slots}$   $L_{vote} = 2 \text{ slots}$ Minute created 1 14 2 15 16 Number received 17 18  $L_vote = 3 slots$ 19 20 21 9 22 23 10 24 11 Time from generation to receipt at node [s]  $\Delta$  hdr = 1500 ms L\_diff = 1 slots L\_diff = 3 slots L\_diff = 5 slots L\_diff = 7 slots  $L_{vote} = 1 \text{ slots}$ Minute created 0 1 14  $L_vote = 2 slots$ 2 15 Number received 17 18 19  $L_vote = 3 slots$ 8 21 9 22 10 23 11 24 12 Ó Time from generation to receipt at node [s]  $\Delta$  hdr = 2000 ms L\_diff = 1 slots L\_diff = 3 slots L\_diff = 5 slots L\_diff = 7 slots  $L_{vote} = 1 \text{ slots}$   $L_{vote} = 2 \text{ slots}$ Minute created 13 14 15 3 16 Number received 17 20 8 21 9 22 10 23 11

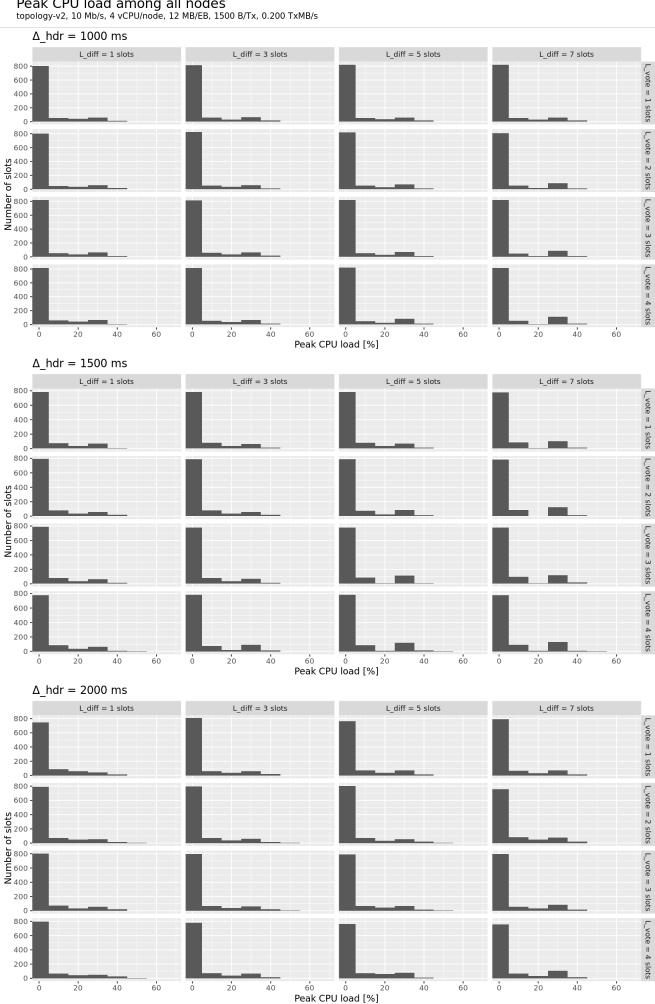
L\_vote = 3 slots L\_vote = 4 slots 12 Time from generation to receipt at node [s]





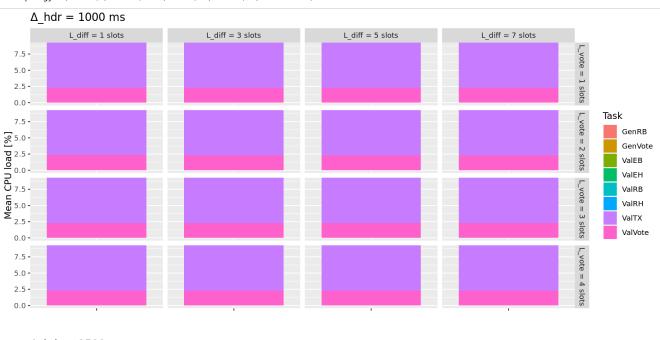


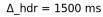


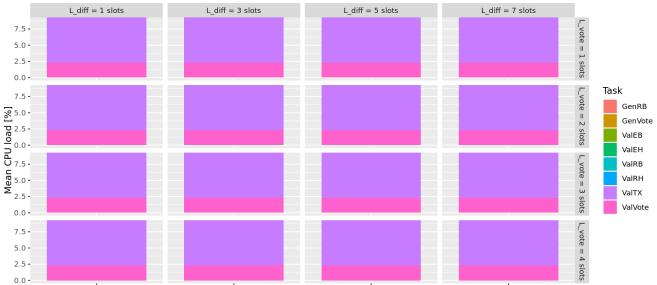


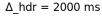
#### Mean CPU load among all nodes

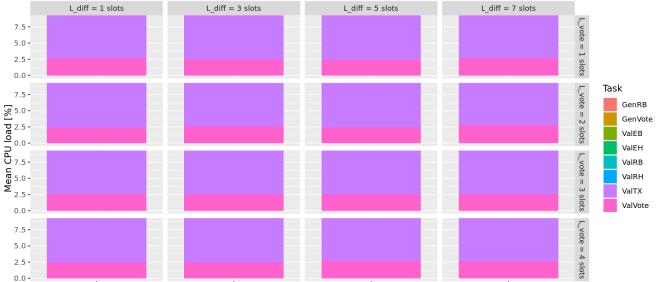
topology-v2, 10 Mb/s, 4 vCPU/node, 12 MB/EB, 1500 B/Tx, 0.200 TxMB/s





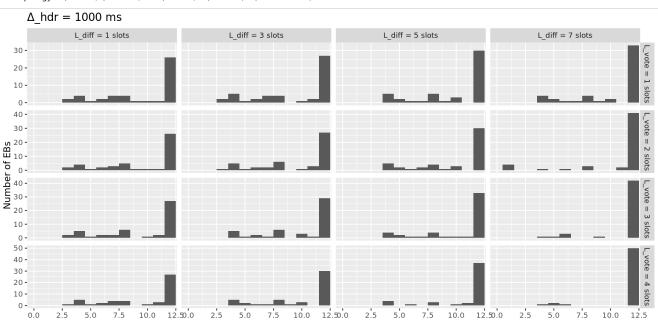






### Size of transactions in EBs

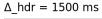
topology-v2, 10 Mb/s, 4 vCPU/node, 12 MB/EB, 1500 B/Tx, 0.200 TxMB/s



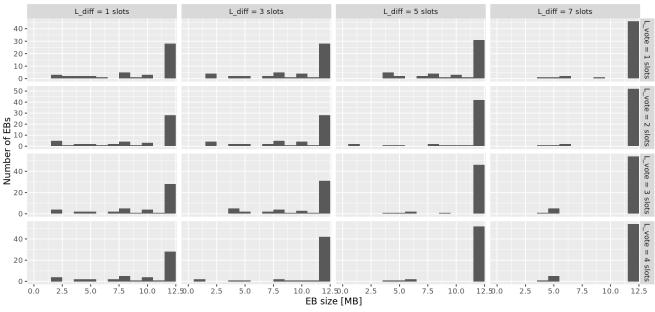
10.0 12.50.0

EB size [MB]

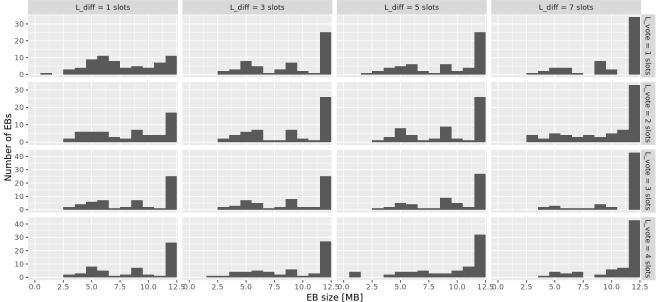
7.5



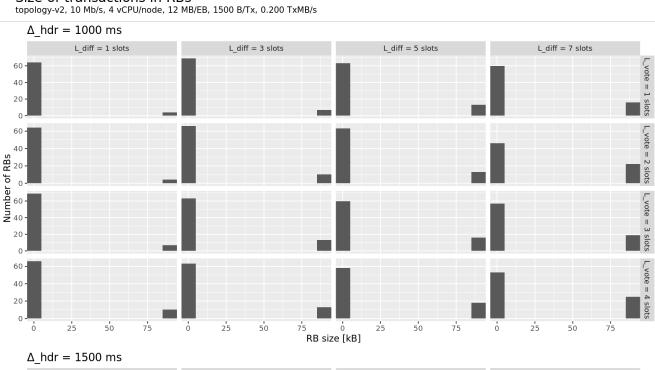
0.0

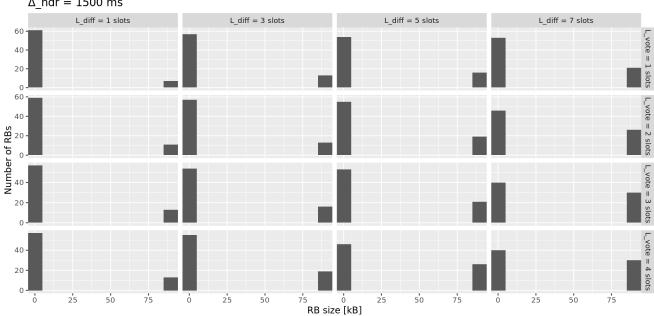


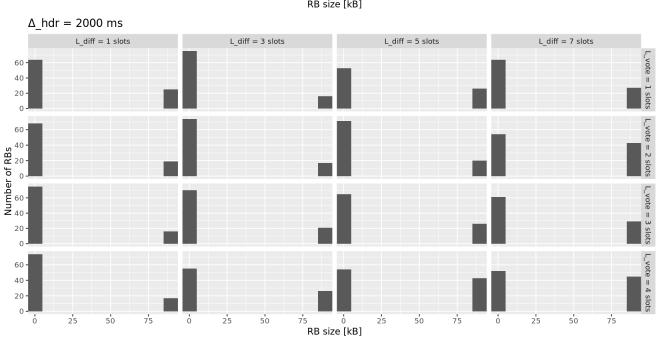
## $\Delta_hdr = 2000 \text{ ms}$



### Size of transactions in RBs







Disposition of transactions topology-v2, 10 Mb/s, 4 vCPU/node, 12 MB/EB, 1500 B/Tx, 0.200 TxMB/s L\_diff = 1 slots L\_diff = 3 slots L\_diff = 5 slots L\_diff = 7 slots 1000 -750 **-**L\_vote = 1 slots 500-250 **-**1000 -750 **-**L\_vote = 2 slots 500 -Total size of transactions [MB] 250 **-**Block 0 -EB later not certified EB later certified 1000-EB now certified 750 **-**L\_vote = 3 slots 500-250 **-**0 -1000 -750 -L\_vote = 4 slots 500-250 **-**VariedZ  $\Delta$ \_hdr = 1000 ms - $\Delta$  hdr = 1000 ms - $\Delta$  hdr = 1000 ms - $\Delta$  hdr = 1500 ms- $\Delta$ \_hdr = 2000 ms - $\Delta$ \_hdr = 1500 ms- $\Delta$ \_hdr = 1500 ms- $\Delta_{hdr} = 2000 \text{ ms} \Delta_hdr = 1000 \text{ ms}$  $\Delta_{hdr} = 2000 \text{ ms}$  $\Delta$  hdr = 1500 ms -