Comparison of “Signal to High Prio Thread” benchmark measurements for Armv8a (platform tx1a)

Table 1. Measurement pattern 10/100 (10 warm-up samples, 100 recorded samples)

	Min	Max	Mean	Std Dev		Min	Max	Mean	Std Dev
10/100	Late processing					Early processing			
Run #1	589	732	606	23.89		599	700	604	15.74
Run #2	589	791	609	30.61		599	652	602	9.00
Run #3	589	719	605	21.34		599	630	602	6.88
Run #4	589	745	609	26.39		592	634	601	5.95
Run #5	589	779	607	24.17		596	649	602	8.71
Run #6	589	712	606	20.04		599	687	603	11.77
Run #7	639	700	646	9.10		596	690	603	12.12
Run #8	589	695	605	19.89		599	713	603	12.85
Run #9	589	698	604	18.38		599	649	603	9.66
Run #10	589	733	608	23.77		599	632	602	6.74
Run #11	588	732	609	24.66		599	690	603	12.57
Run #12	589	782	609	28.00		599	656	603	9.49
Run #13	589	761	610	30.91		599	645	603	8.88
Run #14	589	712	606	23.40		588	683	604	15.39
Run #15	589	746	606	25.44		592	714	604	16.77
	Stats for the columns								

	Min	Max	Mean	Std Dev		Min	Max	Mean	Std Dev
Min	588	695	604	9		588	630	601	6
Max	639	791	646	31		599	714	604	17
Mean	592	736	610	23		597	668	603	11
	The delay is added								
10/100	Late processing					Early processing			
Run #1	619	628	622	2.40		589	616	612	3.90
Run #2	619	627	622	2.30		589	594	591	1.86
Run #3	619	624	622	2.24		589	594	591	1.88
Run #4	619	627	622	2.33		589	594	591	1.86
Run #5	619	627	622	2.32		589	616	612	3.95
Run #6	619	627	622	2.37		582	587	584	1.88
Run #7	619	628	622	2.34		589	603	600	1.86
Run #8	619	628	622	2.47		589	616	612	3.98
Run #9	619	624	622	2.25		573	593	575	2.57
Run #10	619	628	622	2.56		589	594	591	1.88
Run #11	619	628	622	2.45		589	612	591	2.81
Run #12	619	628	622	2.32		573	578	575	1.86
Run #13	619	627	622	2.39		598	631	600	3.64
Run #14	619	644	622	3.15		589	594	591	1.86
Run #15	619	628	622	2.41		589	621	591	3.57
	Stats for the columns								

	Min	Max	Mean	Std Dev		Min	Max	Mean	Std Dev
Min	619	624	622	2		573	578	575	2
Max	619	644	622	3		598	631	612	4
Mean	619	628	622	2		587	603	594	3

Table 2. Measurement pattern 150/100

	Min	Max	Mean	Std Dev		Min	Max	Mean	Std Dev
150/100	Late processing					Early processing			
Run #1	589	788	599	19.86		630	712	634	13.34
Run #2	589	695	599	12.57		614	652	616	4.74
Run #3	589	711	599	17.03		630	711	634	11.47
Run #4	589	688	598	11.10		630	716	634	11.53
Run #5	589	712	599	14.80		630	704	634	10.52
Run #6	589	750	600	22.00		630	744	635	14.60
Run #7	589	706	599	15.64		614	687	618	10.68
Run #8	589	779	600	21.56		626	686	633	7.55
Run #9	589	693	599	13.25		630	678	634	8.51
Run #10	589	723	600	18.28		630	732	634	11.68
Run #11	589	708	600	16.40		614	699	618	13.97
Run #12	589	724	600	18.39		627	683	633	8.14
Run #13	589	720	599	17.11		630	751	635	18.33
Run #14	589	711	599	15.98		622	678	633	7.54

Run #15	589	647	598	7.72		630	711	633	8.87
	Stats for the columns								
Min	589	647	598	8		614	652	616	5
Max	589	788	600	22		630	751	635	18
Mean	589	717	599	16		626	703	631	11
	The delay is added								
150/100	Late processing					Early processing			
Run #1	619	628	622	2.56		609	640	622	3.27
Run #2	619	627	622	2.34		620	633	622	2.33
Run #3	619	624	622	2.25		621	641	638	3.14
Run #4	619	628	622	2.41		609	641	622	3.33
Run #5	619	628	622	2.41		629	634	631	2.04
Run #6	619	627	622	2.34		604	637	606	3.72
Run #7	619	628	622	2.31		620	641	638	3.22
Run #8	619	628	622	2.43		626	634	631	2.10
Run #9	619	628	622	2.40		620	625	622	2.03
Run #10	620	628	623	2.31		620	653	638	3.37
Run #11	619	628	622	2.34		620	637	622	2.54
Run #12	619	627	622	2.38		629	634	631	2.06
Run #13	619	628	622	2.39		620	641	622	2.79
Run #14	619	624	622	2.27		629	682	631	5.51
Run #15	619	624	623	2.24		604	609	606	2.05

	Stats for the columns								
Min	619	624	622	2		604	609	606	2
Max	620	628	623	3		629	682	638	6
Mean	619	627	622	2		619	639	625	3

Table 3. Observations (selected stats from Table 1& 2)

	Late processing					**Early processing**			
	(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)
	10/100 no delay	10/100 delay	150/100 no delay	150/100 delay		10/100 no delay	10/100 delay	150/100 no delay	150/100 delay
“Min” range	588 - 639	619 - 619	589 - 589	619 - 620		588 - 599	573 - 598	614 - 630	604 - 629
Average “Min”	592	619	589	619		597	587	626	619
“Max” range	695 - 791	624 - 644	647 - 788	624 - 628		630 - 714	578 - 631	652 - 751	609 - 682
Average “Max”	736	628	717	627		668	603	703	639
“Std Dev” range	9 - 31	2 - 3	8 - 22	2 - 3		6 - 17	2 - 4	5 - 18	2 - 6
Average “Std Dev”	23	2	16	2		11	3	11	3

Measurements taken with sel4bench-manifest at commit adb9679d2ec3a56fbbcab27fb0639b4d4e73c3c1 (Dec 8, 2021)

Traditional seL4

February 4, 2022