Type	Name	rpi4b Total	Distribution		qemu Total	Distribution	rpi3bp	Гotal	Distribution	gravitor		l Distribution	
	MP+po_p_amoswap_pl-coi+addr check1	0/0 0/500K)		0/0			0/0 500K		0/	$\frac{0/0}{26.50M}$)	
	check2 check3	0/500K 0/6M			0/0		/	500K 500K			$\frac{'26.50N}{'33.50N}$		
	check4 check5	0/6M 0/6M			0/0		,	500K 500K			'33.50N '33.50N		
	check6 LB+pos	0/5.50M 0/5M			0/0			500K 500K		0/	$\frac{'33.50 \text{N}}{0/40 \text{N}}$		
	MP+dmb+po MP+dmbs	0/0 0/5M			0/0 0/3.50M		0/	0/0 500K		0/	0/0 '39.50N		
	MP+po+dmb MP+po-data+dmb	0/0 4.99K/4M		± 189.09/500K	0/0		1.23K/	0/0 500K	$1.23 \text{K} / 500 \text{K} \pm 0.00 /$	500K 431.10	0/0 0K/36M		$\pm \ 2.36 { m K}/500 { m K}$
	MP+pos MP+rfi-data+dmb	514.11K/5M 2.75K/2M	,	$\pm 5.20 \text{K} / 500 \text{K}$ $\pm 294.54 / 500 \text{K}$	0/3.50M 0/0		2.17K/ 7.31K/		$\begin{array}{ccc} 2.17 \text{K} / 500 \text{K} & \pm 0.00 / \\ \hline 7.31 \text{K} / 500 \text{K} & \pm 0.00 / \\ \end{array}$,	$\pm 8.85 \text{K} / 500 \text{K}$ $\pm 2.70 \text{K} / 500 \text{K}$
	SB+dmbs SB+pos	0/5M 890.96K/5M		$\pm 10.98 \text{K} / 500 \text{K}$	0/3.50M 0/3.50M		67.40K/	500K 500K	$67.40 \text{K} / 500 \text{K} \pm 0.00 /$,	/39.50N /39.50N		$\pm 18.46 \text{K} / 500 \text{K}$
	WRC+addrs WRC+pos	0/4.50M 40.77K/4.50M		$\pm~1.01\mathrm{K}/500\mathrm{K}$	0/3.50M 0/3.50M		,	500K 500K	$2.00/500K \pm 0.00/$		′39.50M ′39.50M		$\pm 508.94/500 \mathrm{K}$
exc	LB+R-svc-W+R-svc-W MP+W-svc-W+addr	0/7M 0/7M			0/0 0/0		14.70k	,	$2.45 \text{K} / 500 \text{K} \pm 1.86 \text{R}$		0/110N .09.50N	0.49/500K	$\pm 0.79/500 K$
	MP+dmb+R-svc-R MP+dmb+R-svc-eret-R	0/2.50M 0/7M			0/0		(0/3M			$\frac{0/76N}{0/109N}$	I	
exc	MP+dmb+eret MP+dmb+svc	0/7.50M 0/7.50M			0/6.50M 0/6.50M		(0/3M 0/3M			$\frac{0/109N}{0/109N}$	I	
exc 1	MP+dmb+svc-R-eret-R MP+dmb+svc-R-eret-svc-R	0/2.50M 0/7.50M			0/0		(0/3M		·	$\frac{75.50M}{0/109M}$	I	
exc	MP+dmb+svc-R-svc-R MP+dmb+svc-R-svc-eret-R	0/7.50M 0/7.50M	[0/0		(0/3M 0/3M		0/1	.08.50N	I	
exc]	MP+dmb+svc2-R-eret-R MP+svc-W-eret-W+addr	0/7.50M 0/7.50M	[0/0		2.70k	/	450.17/500K ± 306.8	7/500K 1.87F	$\frac{0/108N}{5/108N}$	8.65/500K	± 6.31/500K
exc	SB+W-svc-R+W-svc-R SB+svc-erets	0/7.50M 34/7M	2.43/500 K	± 4.05/500K	0/0		5.59k	,	$931.83/500K \pm 1.99I$	Z/500K 1.81F	\(\frac{108N}{108N}\)	8.38/500K	± 20.67/500K ± 5.40/500K
pgtable	CoRT CoRT+dsb-isb		58.89K/500K 55.79K/500K 145.94K/500K		0/0 $0/0$ $2/3.50M$		64.59K/	500K	$ \begin{array}{rrr} 114.28 \text{K} / 500 \text{K} & \pm 0.00 / \\ 64.59 \text{K} / 500 \text{K} & \pm 0.00 / \\ \end{array} $	500K 3.07		I 46.58K/500K	
pgtable	CoTR CoTR+addr CoTR+dmb	1.46M/5M 0/5M 1/5M	[± 21.67K/500K ± 0.30/500K	2/3.50M 2/3M 5/3M	1 1	500K 1/	500K 500K 500K	$1.00/500 \text{K} \pm 0.00/$	500K 0/	$\frac{32.50N}{32.50N}$		± 18.19K/500K ± 0.24/500K
pgtable	CoTR+dmb CoTR+dsb CoTR+dsb-isb	2/5M 1/5M	$0.20/500 \mathrm{K}$	$\pm 0.30/500K$ $\pm 0.40/500K$ $\pm 0.30/500K$	5/3M 1/3M 2/3M	$\begin{array}{c} 0.83/500\text{K} & \pm 0.69/5 \\ \hline 0.17/500\text{K} & \pm 0.37/5 \\ \hline 0.33/500\text{K} & \pm 0.47/5 \\ \hline \end{array}$	500K 0/	500K 500K 500K		5/	$\frac{32.50N}{32.50N}$	0.08/500K	$\pm 0.24/500K$ $\pm 0.27/500K$ $\pm 0.12/500K$
pgtable	CoTR+dsb-isb CoTR.inv CoTR.inv+dsb-isb	2.67M/5M 0/5M	266.74K/500K	$\pm 0.30/500K$ $\pm 65.29K/500K$	0/3.50M 0/3.50M	0.99/300K ± 0.41/5	0/	500K 500K 500K		26.59M/		I 409.09K/500K	± 0.12/500K ± 77.47K/500K
pgtable	Colk.inv+dsb-isb CoTR1+dsb-dc-dsb-tlbi-dsb-isb CoTR1+dsb-tlbi-dsb-isb	2/5M 2/5M 2/5M	0.20/500 K	$\pm 0.40/500 K$ $\pm 0.40/500 K$	0/3.50M $0/0$ $0/0$		0/	500K 500K 500K		4/	$\frac{32.50 \text{N}}{32.50 \text{N}}$	0.06/500K	$\pm 0.24/500 K$ $\pm 0.21/500 K$
pgtable	CoTR1.tlbi+dsb-isb CoTT	6/5M 0/5M	$0.60/500 \mathrm{K}$	$\pm 0.40/500K$ $\pm 1.02/500K$	7/3M 0/0	$1.17/500K \pm 0.69/5$	500K 1/	500K 500K 500K	$1.00/500 \text{K} \pm 0.00/$	500K 29/	$\frac{32.50 \text{N}}{32.50 \text{N}}$	0.45/500K	$\pm 0.21/500K$ $\pm 0.63/500K$
pgtable	COTW COWT	0/0		± 10.73K/500K	0/0			0/0	$369.12 \text{K} / 500 \text{K} \pm 0.00 /$,	0/0		$\pm 1.74 \text{K} / 500 \text{K}$
pgtable	CoWT+dsb CoWT+dsb-isb	2.79M/5M	279.32K/500K 280.77K/500K	$\pm \ 9.16 \mathrm{K} / 500 \mathrm{K}$	0/3.50M 0/3.50M 0/3.50M		248.71K/	500K	$\begin{array}{rrr} 309.12 \text{K} / 500 \text{K} & \pm 0.00 / \\ 248.71 \text{K} / 500 \text{K} & \pm 0.00 / \\ 249.23 \text{K} / 500 \text{K} & \pm 0.00 / \end{array}$	500K 16.24M/	'32.50N	I 249.83K/500K I 249.84K/500K	$\pm 409.71/500 \mathrm{K}$
pgtable	CoWT+dsb-svc-tlbi-dsb CoWT.inv	0/5M 6/5M	[± 1.20/500K	0/3.50M 0/3.50M 0/3.50M		0/	500K	$305.08 \text{K} / 500 \text{K} \pm 0.00 /$,	$\frac{0/32N}{22/32N}$	ſ	± 0.67/500K
pgtable	CoWT.inv+dmb CoWT.inv+dsb	5/5M 1/5M	$0.50/500 \mathrm{K}$	$\pm 0.67/500K$ $\pm 0.67/500K$ $\pm 0.30/500K$	0/0 0/3.50M		45.59K/			500K	$\frac{15/32N}{31.50N}$	0.23/500K	$\pm 0.49/500K$ $\pm 0.49/500K$ $\pm 0.67/500K$
pgtable	CoWT.inv+dsb-isb CoWT1+dsb-tlbi-dsb	0/5M 0/5M			0/3M 0/3.50M		0/	500K 500K			$\frac{'31.50N}{0/32N}$	ſ	
pgtable	CoWT1+dsb-tlbi-dsb-isb CoWinvT	0/5M		± 8.75K/500K	0/0 0/3.50M		0/	500K	$293.49 \text{K} / 500 \text{K} \pm 0.00 /$		0/32N		$\pm 17.15 \text{K} / 500 \text{K}$
pgtable	CoWinvT+dsb-isb CoWinvT1+dsb-tlbi-dsb		268.66K/500K	,	0/0 0/3.50M		336.81K/		$\frac{336.81 \text{K}/500 \text{K}}{336.81 \text{K}/500 \text{K}} \pm 0.00 \text{M}$	500K 16.31M/		I 258.94K/500K	,
pgtable	CoWinvWT1+dsb-tlbi-dsb-dsb-isb ISA2.TRR+dmb+po+dmb	0/5M 0/5M			0/0 0/3M		0/	500K 500K		0/	$\frac{'31.50N}{'31.50N}$	I	
pgtable pgtable	MP.BBM1+[dmb.ld]-dsb-tlbiis-dsb-isb-dsb-isb+dsb-i MP.BBM1+[dmb.ld]-tlbiis-dsb-isb-dsb-isb+dsb-isb	sb 0/107M 0/197M	[0/0		·	0/0 1.06G		($\frac{0/427N}{0/119N}$	[[
pgtable pgtable	MP.BBM1+[po]-dsb-tlbiis-dsb-isb-dsb-isb+dsb-isb MP.BBM1+dsb-isb-tlbiis-dsb-isb-dsb-isb+dsb-isb	0/107M 0/5M	[0/0 0/0		0/	0/0 500K		($\frac{0/135N}{2/125N}$	I 0.21/500K	$\pm 0.44/500 K$
pgtable pgtable	MP.BBM1+dsb-tlbiis-dsb-dsb+dsb MP.BBM1+dsb-tlbiis-dsb-dsb+dsb-isb	1/5M 0/5M	[$\pm 0.30/500 \text{K}$	0/0		0/	500K 500K			7/32N 2/32N	0.03/500K	$\pm 0.36/500 \text{K} \pm 0.17/500 \text{K}$
pgtable 1	MP.BBM1+dsb-tlbiis-dsb-dsb-isb+dsb MP.BBM1+dsb-tlbiis-dsb-dsb-isb+dsb-isb	1/5M 2/5M	$0.20/500 \mathrm{K}$	$\pm 0.30/500 \text{K} \pm 0.40/500 \text{K}$	0/0			500K 500K			$\frac{0/32N}{3/32N}$	$0.05/500 \mathrm{K}$	± 0.28/500K
pgtable 1	MP.BBM1+po-dsb-tlbiis-dsb-isb-dsb-isb MP.BBM1.id+dsb-tlbiis-dsb-dsb+dsb-isb	9/5M	0.90/500K	± 0.30/500K	0/0		,	0/0 500K			$\frac{9/181N}{66/32N}$	1.03/500K	± 0.16/500K ± 0.17/500K
pgtable 1	MP.RT+svc-dsb-tlbi-dsb+dsb-isb MP.RT+svc-dsb-tlbiis-dsb+dsb-isb	1/5M 1/5M	$0.10/500 \mathrm{K}$	$\pm 0.30/500 \text{K} $ $\pm 0.30/500 \text{K}$	0/3M 0/3.50M		0/	500K 500K		3/	$\frac{31.50 \text{N}}{31.50 \text{N}}$	$0.05/500 \mathrm{K}$	$\pm 0.21/500 \text{K} $ $\pm 0.21/500 \text{K}$
pgtable 1	MP.RT.inv+dmb+addr MP.RT.inv+dmb+po	0/5M 0/5M	[100.00/8007	0/3M 0/0		0/	500K 500K	000 00 /2007	0/	$\frac{31.50 \text{N}}{31.50 \text{N}}$	[gr og/roots
pgtable 1	MP.RT1+[dmb.ld]-dmb+dsb-isb MP.RT1+[dmb.ld]-dsb-isb-tlbiis-dsb-isb+dmb	7.14K/5M 0/0	,	$\pm 129.06/500K$	0/0		986/	$\frac{500 \text{K}}{0/0}$	$986.00/500K \pm 0.00/$	0/	'12.50N	ſ	± 35.96/500K
pgtable 1	MP.RT1+[dmb.ld]-dsb-isb-tlbiis-dsb-isb+dsb-isb MP.RT1+[dmb.ld]-dsb-tlbiis-dsb-isb+dmb	0/0 0/5M	[+ 0.40/5007	0/0 0/0		,	0/0 500K	1.00/5001/2 1.0.00	0/	$\frac{12.50 \text{M}}{31.50 \text{M}}$	I	+ 0.97/5001/
pgtable 1	MP.RT1+dc-dsb-tlbiall-dsb-dsb-isb MP.RT1+dc-dsb-tlbiall-dsb-isb+dsb-isb MP.RT1+dsb-isb-tlbiis-dsb-isb+dsb-isb	4/5M 3/5M 0/5M	$0.30/500 \mathrm{K}$	$\pm 0.49/500K$ $\pm 0.46/500K$	0/2.50M 0/0 0/0		0/	500K 500K 500K	$1.00/500K \pm 0.00/$		$\frac{31.50M}{31.50M}$ $\frac{4/31M}{4}$	0.03/500K	$\pm 0.27/500K$ $\pm 0.18/500K$ $\pm 0.25/500K$
pgtable 1	MP.KT1+dsb-isb-t1biis-dsb-isb+dsb-isb MP.RT1+dsb-t1bi-dsb+dsb-isb MP.RT1+dsb-t1biall-dsb+dsb-isb	0/5M 0/5M 5/5M	[± 0.50/500K	0/0 0/3M 0/3.50M		0/	500K 500K 500K			$\frac{4/31N}{2/31N}$ $\frac{6/31N}{6}$	0.03/500K	$\pm 0.25/500K$ $\pm 0.18/500K$ $\pm 0.30/500K$
pgtable 1	MP.RT1+dsb-tlbiallis-dsb+dsb-isb MP.RT1+dsb-tlbiis-dsb+dsb-isb	3/5M 1/5M	$0.30/500 \mathrm{K}$	$\pm 0.50/500K$ $\pm 0.64/500K$ $\pm 0.30/500K$	0/3.50M 0/0 0/3.50M		0/	500K 500K 500K			$\frac{6/31N}{2/31N}$ $\frac{1/31N}{1/31N}$	0.03/500K	$\pm 0.30/500K$ $\pm 0.18/500K$ $\pm 0.13/500K$
pgtable 1	MP.RT1+dsb-tlbiis-dsb-isb+dmb MP.RT1+dsb-tlbiis-dsb-isb+dsb-isb	0/5M 0/5M	,	_ 0.00/ 000IX	0/0.50M 0/0 0/0		0/	500K 500K 500K			$\frac{1/31N}{1/31N}$	0.02/500K	$\pm 0.13/500K$ $\pm 0.13/500K$ $\pm 0.13/500K$
pgtable 1	MP.RT1+dsb-tlbiis-dsb-tlbiis-dsb+dsb-isb MP.TT+Winv-dmb-Winv+tpo	0/5M 0/5M 193.79K/5M	[± 7.02K/500K	0/3.50M 0/0			500K	$57.63 \text{K} / 500 \text{K} \pm 0.00 /$	500K 67 38	$\frac{1/31N}{3/31N}$ 8K/31N	$0.05/500 \mathrm{K}$	$\pm 0.13/500K$ $\pm 0.21/500K$ $\pm 926.88/500K$
pgtable 1	MP.TT+dmb+dsb-isb MP.TT+dmb+tpo	529.09K/4.50M 709.98K/4.50M	58.79K/500K	± 12.70K/500K ± 12.86K/500K	0/0		59.96K/ 58.59K/	500K	59.96K/500K ± 0.00/ 58.59K/500K ± 0.00/	500K 398.74	K/31N K/31N K/31N	6.43K/500K	$\pm 7.43 \text{K} / 500 \text{K}$ $\pm 5.93 \text{K} / 500 \text{K}$
pgtable 1	MP.TT.inv+dmb+dsb-isb MP.TT.inv+dmb+tpo	0/4.50M 0/4.50M		, , , , , , ,	0/0		0/	500K 500K	, = 5.50/		$\frac{0/31N}{0/31N}$	Ī	,
pgtable 1	MP.invRT1+dsb-dsb-isb MP.invRT1+dsb-isb-tlbiis-dsb-isb+dsb-isb	570.59K/4M 0/4.50M	71.32K/500K	$\pm 11.52 \text{K} / 500 \text{K}$	0/0		20.27K/		$20.27 \text{K} / 500 \text{K} \pm 0.00 / $,	I 11.57K/500K	$\pm 5.91 \text{K} / 500 \text{K}$ $\pm 0.13 / 500 \text{K}$
pgtable 1	MP.invRT1+dsb-tlbiis-dsb+dsb MP.invRT1+dsb-tlbiis-dsb+dsb-isb	0/4M 1/3.50M		$\pm 0.35/500 K$	0/0		0/	500K 500K			$\frac{2}{31}$ N $\frac{1}{31}$ N	0.03/500K	$\pm 0.18/500K$ $\pm 0.13/500K$
pgtable	WRC.AT+ctrl+dsb WRC.TRR+addr+dmb	107.79K/3.50M 0/3.50M	15.40K/500K	$\pm 2.85 \text{K}/500 \text{K}$	0/3.50M 0/3M		19.30K/ 0/	500K 500K	$19.30 \text{K} / 500 \text{K} \pm 0.00 /$	0/	30.50N 30.50N	3.01K/500K	± 3.13K/500K
pgtable pgtable	WRC.TRR.inv+addrs WRC.TRT+addr+dmb	0/3.50M 29.28K/3.50M	4.18K/500K	$\pm 970.04/500 \mathrm{K}$	0/3M 0/3M		17.92K/		$17.92 \text{K} / 500 \text{K} \pm 0.00 /$	500K 57.00K/		934.38/500K	$\pm 416.32/500 \mathrm{K}$
pgtable pgtable	WRC.TRT+dmbs WRC.TRT+dsb-isbs	26.13K/3.50M 14.43K/3.50M	2.06 K / 500 K	$\pm 1.47 \text{K} / 500 \text{K}$ $\pm 994.53 / 500 \text{K}$	0/3M 0/3M		22.64K/ 11.79K/	500K	$\begin{array}{ccc} 22.64 \text{K} / 500 \text{K} & \pm 0.00 / \\ 11.79 \text{K} / 500 \text{K} & \pm 0.00 / \end{array}$	500K 72.31K/	'30.50N	I 1.19K/500K	$\pm 444.60/500 \text{K}$ $\pm 435.00/500 \text{K}$
pgtable pgtable	WRC.TRT.inv+addrs WRC.TRT.inv+dsb-isbs	0/3M 0/3M			0/0 0/3M		0/	500K 0/0		,	$\frac{'29.50N}{0/29N}$	I	
pgtable	WRC.TRT.inv+po+addr WRC.TRT.inv+po+dmb	0/3M 0/3M			0/3M 0/3M			0/0		0/	$\frac{(28.50N)}{0/28N}$	[
pgtable	WRC.TRT1+dsb-tlbiis-dsb+dmb WRC.TRT1+dsb-tlbiis-dsb+dsb-isb	0/3.50M 0/3.50M	[0/3M 0/0			0/0 0/0			0/29N 0/29N	[
aliasing	CoWR.alias MP+dmb-data+dmb	0/6M 0/5M			0/0		0/1	.50M .50M			0/36N 0/36N	[
aliasing	MP.alias+dmbs MP.alias2+dmb-data+dmb	0/5M 0/5M			0/0		0/1	.50M .50M			$\frac{0/36N}{0/36N}$	[
aliasing	MP.alias2+dmbs MP.alias2+po-data+dmb	0/3M 2.23K/5M	222.60/500K	± 44.19/500K	0/0		3.17K/1		$1.06 \text{K} / 500 \text{K} \pm 107.8$	9/500K 407.36		5.66 K / 500 K	± 1.83K/500K
aliasing	MP.alias3+rfi-data+dmb SB.alias+dmbs	51/3M 0/5M	[$\pm 2.36/500 K$	0/0		(.50M 0/1M	$5.33/500K \pm 2.05/$	0/	'35.50N	ſ ,	$\pm 337.68/500K$
aliasing	WRC.alias2+addrs WRC.alias2+dmbs	0/4M 0/4M 1.76M/2M		+ 250 02 /50072	0/0		0,	/43M /43M	9/0 10K /500K 1 201	0/	$\frac{0/19M}{18.50M}$	I	+ 0.001/2001/
pmds	CoWT.L23+dsb-isb CoWT.L23+po CoWT1.L23+dsb-tlbi-dsb-isb	1.99M/2M	438.98K/500K 497.08K/500K	'	0/0		2.48M/2	2.50M	$249.10 \text{K} / 500 \text{K} \pm 391.4$ $496.01 \text{K} / 500 \text{K} \pm 1.19 \text{I}$,	M/75N	I 294.08K/500K I 474.23K/500K	,
pmds	CoWT1.L23+dsb-tlbi-dsb-isb ROT+dsb-dsb	0/2M 0/2M 0/2M			0/0		0/2	2.50M 2.50M 2.50M			0/75M 0/75M 0/75M	I	
pmds 1	ROT+po-po ROT1+dsb-dsb-tlbi-dsb ROT1+dsb-dsb-tlbivaa-dsb	0/2M			0/0		(0/2M			0/75N 0/75N 0/75N	[
same_page	CoTT+po-popage	0/2M 0/2M	[0/0			$\frac{0/2M}{0/2M}$			0/75N	[
timing	MP.times+pos	0/0	1		0/0			0/0			0/0	J	