

VTR designs

Four dies

Design	hMETIS (s)	METIS (s)	TritonPart (s)	FPGAPart (s)
bgm	11.21	0.319	65.19	32.07
blob_merge	2.93	0.524	21.32	5.54
boundtop	3.31	0.221	33.19	6.32
diffeq1	5.54	0.391	46.45	19.21
diffeq2	6.61	0.313	47.19	11.81
LU32PEEng	13.41	0.292	221.16	58.34
LU8PEEng	9.23	0.368	43.52	11.32
mcml	25.54	0.429	301.87	56.17
kDelayWorker3%	1.93	0.519	33.42	5.11
mkPktMerge	2.13	0.321	27.32	4.32
or1200	1.96	0.524	49.19	6.44
raygentop	6.74	0.422	46.43	10.11
sha	4.51	0.328	73.42	8.36
stereovision0	10.91	0.219	133.19	18.01
stereovision1	7.91	0.242	256.19	22.45
stereovision2	6.67	0.297	254.23	26.41

Design

bnn
 bwave_like.fixed.sr
 clstm_like.medium
 clstm_like.small
 conv_layer_hls
 dla_like.small
 eltwise_layer
 lenet
 lstm
 reduction_layer
 robot_rl
 softmax
 spmv
 tpu_like.small.os
[tpu_like.small.ws](#)

Three dies

Design	hMETIS (s)	METIS (s)	TritonPart (s)	FPGAPart (s)
bgm	8.92	0.264	41.26	14.29
blob_merge	1.93	0.521	19.62	3.32
boundtop	2.61	0.209	28.19	1.43
diffeq1	4.86	0.264	32.39	10.15
diffeq2	5.45	0.287	42.19	9.05
LU32PEEng	11.29	0.221	201.26	54.19
LU8PEEng	6.49	0.219	40.92	9.19
mcml	17.21	0.364	296.23	45.29
kDelayWorker3%	1.64	0.392	30.76	4.64
mkPktMerge	1.82	0.296	22.25	4.11
or1200	1.44	0.244	30.19	5.21
raygentop	1.73	0.319	33.73	6.03
sha	1.49	0.296	56.65	3.76
stereovision0	3.87	0.119	121.21	6.08
stereovision1	4.76	0.202	222.91	13.11
stereovision2	5.19	0.264	201.13	12.13

Design

bnn
 bwave_like.fixed.sr
 clstm_like.medium
 clstm_like.small
 conv_layer_hls
 dla_like.small
 eltwise_layer
 lenet
 lstm
 reduction_layer
 robot_rl
 softmax
 spmv
 tpu_like.small.os
[tpu_like.small.ws](#)

Two dies

Design	hMETIS	METIS	TritonPart	FPGAPart (s)
bgm	8.92	0.132	36.14	11.32

Design

bnn

blob_merge	1.93	0.396	11.04	2.27	bwave_like.fixed.sr
boundtop	2.61	0.204	19.56	0.91	clstm_like.medium
diffeq1	4.86	0.176	26.73	7.94	clstm_like.small
diffeq2	5.45	0.223	22.32	4.45	conv_layer_hls
LU32PEEng	11.29	0.171	156.41	34.26	dla_like.small
LU8PEEng	6.49	0.126	33.19	6.23	eltwise_layer
mcml	17.21	0.166	201.14	39.11	lenet
kDelayWorker3;	1.64	0.143	19.15	2.93	lstm
mkPktMerge	1.82	0.132	17.61	2.32	reduction_layer
or1200	1.44	0.102	21.22	4.16	robot_rl
raygentop	1.73	0.128	26.42	5.87	softmax
sha	1.49	0.114	33.09	2.16	spmv
stereovision0	3.87	0.102	110.46	2.33	tpu_like.small.os
stereovision1	4.76	0.101	196.64	2.72	tpu_like.small.ws
stereovision2	4.67	0.114	174.26	2.23	

Koios designs

hMETIS (s)	METIS (s)	TritonPart (s)	FPGAPart (s)
28.75	0.376	123.62	55.62
6.93	0.286	46.84	21.64
78.86	0.984	201.97	111.74
27.64	0.576	76.42	63.16
2.95	0.152	21.74	11.39
4.51	0.469	56.79	40.81
5.63	0.142	284.65	46.65
2.62	0.711	43.45	4.94
19.53	0.342	394.98	49.01
5.9	0.103	73.17	13.92
2.45	0.259	56.19	5.67
5.64	0.12	65.01	16.29
4.57	0.112	158.46	21.46
9.12	0.159	69.98	41.45
8.64	0.295	66.71	40.88

hMETIS (s)	METIS (s)	TritonPart (s)	FPGAPart (s)
21.34	0.298	110.43	44.82
4.36	0.164	42.31	22.93
46.12	0.742	164.39	73.69
16.77	0.323	67.29	41.32
1.63	0.101	16.13	4.31
2.29	0.217	51.15	40.47
3.11	0.129	250.39	22.01
1.47	0.342	22.65	10.72
10.25	0.261	256.42	38.17
3.04	0.083	54.29	12.69
1.73	0.125	39.61	6.83
2.19	0.098	47.29	17.48
2.31	0.086	126.19	10.41
7.64	0.072	46.13	20.23
5.25	0.112	48.39	19.29

hMETIS (s)	METIS (s)	TritonPart (s)	FPGAPart (s)
11.13	0.126	72.19	35.49

1.93	0.095	22.63	15.92
26.47	0.127	106.16	64.69
7.32	0.182	62.29	34.31
1.2	0.065	12.22	4.47
1.85	0.089	46.29	31.04
2.62	0.094	223.42	19.36
1.22	0.121	16.19	3.87
7.69	0.094	219.16	22.17
1.01	0.016	36.24	4.04
1.29	0.019	26.78	4.24
1.02	0.015	27.31	13.18
1.04	0.012	96.43	13.71
4.13	0.007	26.21	12.01
2.05	0.002	28.83	16.73