

Results of the simultaneous scheduling, binding and register allocation

Antonio Cipoletta - Andrea Gualco

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Here reported there is the results of the simultaneous approach vs. the sequential.

The first number of the command indicate the latency constraint that multiply the ASAP time in order to obtain the overall latency constraint of the DFG.

The second number indicate the depth of the update of the parent and child in the FDS. -1 indicate the max depth possible

As underlined during the presentation the run time of the simultaneous scheduling, binding and reg allocation is much more higher that the sequential implementation.

NB

The grey columns are the values related to the simultaneous scheduling, binding and register allocation, while the other columns (with the exception of the DFG name and # nodes that are common for both approaches), are related to the sequential approach (scheduling + binding + register allocation)

Latency constraint: 1.5 - Depth FDS: -1

Name	Nodes	Time [s]	Time [s]	Area	Area	FU	FU	Register	Register	Mux	Mux	DeMux	DeMux
arf	28	0.0145	0.1204	47568	43782	6	6	16	17	528	32	208	9
ewf	34	0.0841	0.2692	26400	23592	4	4	8	9	400	34	176	10
feedback point	53	0.0721	0.7819	66016	58264	12	12	42	44	1040	65	464	19
hal	11	0.0026	0.0139	25648	24184	5	5	10	10	176	9	80	3
horner bezier surf	18	0.0160	0.0941	26704	24262	5	5	10	10	320	18	112	7
interpolate aux	108	0.5992	5.3435	136956	118476	18	19	96	97	2320	138	1088	56
invert matrix general	333	3.0441	388.2660	331916	262106	56	56	154	154	8192	434	4048	71
matmul	109	0.0246	9.2420	128880	125478	20	22	50	50	2464	131	1152	62
motion vectors	32	0.0200	0.2008	58992	61126	9	11	28	28	576	36	240	13
smooth color z triangle	197	2.2321	31.5192	190576	150292	20	20	130	130	4832	281	2272	09
write bmp header	106	0.5957	5.3145	87344	65042	16	14	76	79	2480	152	1184	59

Latency constraint: 1 - Depth FDS: -1

Name	Nodes	Time [s]	Time [s]	Area	Area	FU	FU	Register	Register	Mux	Mux	DeMux	DeMux
arf	28	0.0012	0.0095	63840	60438	8	8	16	16	368	22	224	3
ewf	34	0.0008	0.0067	46056	42876	7	7	9	11	480	32	224	14
feedback point	53	0.0160	0.1783	102272	96432	19	19	42	42	896	56	416	20
hal	11	0.0005	0.0020	33928	32728	6	6	10	10	144	7	64	1
horner bezier surf	18	0.0018	0.0106	34984	32830	6	6	10	10	272	20	112	5
interpolate aux	108	0.0283	2.6059	219152	201152	40	40	96	96	2064	104	1072	32
invert matrix general	333	0.5783	376.7350	484940	431342	93	95	154	154	7344	382	3600	131
matmul	109	0.0234	1.7306	199640	183054	31	32	50	50	2112	114	1088	43
motion vectors	32	0.0019	0.0249	108800	105602	18	18	28	28	384	21	176	6
smooth color z triangle	197	0.0834	47.8687	406432	375052	72	72	130	130	3664	195	1824	63
write bmp header	106	0.2850	2.8385	102328	79026	25	24	76	76	2416	134	1168	57

Latency constraint: 3 - Depth FDS: -1

Name	Nodes	Time [s]	Time [s]	Area	Area	FU	FU	Register	Register	Mux	Mux	DeMux	DeMux
arf	28	0.0687	0.2471	47280	43788	6	6	16	17	480	31	208	11
ewf	34	0.2043	0.6526	17544	14220	3	3	7	7	416	29	176	9
feedback point	53	0.3373	1.5531	56752	48880	9	10	42	42	1008	66	544	26
hal	11	0.0128	0.0373	17080	16030	4	4	10	11	160	12	96	5
horner bezier surf	18	0.0689	0.0977	18136	24658	4	5	10	11	304	22	128	5
interpolate aux	108	1.4881	14.5199	100604	79322	11	10	96	97	2416	151	1168	50
invert matrix general	333	12.6587	1616.1800	310328	244898	53	53	154	155	7840	439	3728	160
matmul	109	0.8614	6.3911	98096	78374	11	12	50	51	2416	134	1136	51
motion vectors	32	0.0704	0.2733	36496	34510	5	7	28	29	656	44	256	17
smooth color z triangle	197	9.2340	97.9102	172288	133414	18	18	130	131	4784	283	2128	86
write bmp header	106	2.0745	8.5347	82936	64912	11	10	76	87	2528	159	1168	57