

Register analysis results

** for SPEC benchmarks: test workload was chosen

*** workload: approx. 150 MB text file sourced from /dev/urandom

Static: Number of times the register is mentioned in the binary. Computed statically by parsing and analysing the instructions.
Dynamic: Number of register accesses during execution. Computed dynamically by logging each read/write to a profiler.

Run via: ./translator -a -f <binary> (will not execute the binary)
Run via: ./translator -p -f <binary> (just arguments) (will execute the binary)

Register hits										Register/Mnemonic										Register hits										Register/Mnemonic									
Static										Dynamic										Static										Dynamic									
Register	sort	grip	602.gcc.s	605.mcf.s	620.omnetpp.s	631.deeppjeng.s	Sum			Register	sort	grip	602.gcc.s	605.mcf.s	620.omnetpp.s	631.deeppjeng.s	Sum			Register	sort	grip	602.gcc.s	605.mcf.s	620.omnetpp.s	631.deeppjeng.s	Sum			Register	sort	grip	602.gcc.s	605.mcf.s	620.omnetpp.s	631.deeppjeng.s	Sum		
x0/zero	20014	28019	560759	24893	131149	28214	793942			x0/zero	4475899	374391237	2667856	4655533339	2253566075	461794889	1579853395			x0/zero	4475899	374391237	2667856	4655533339	2253566075	461794889	1579853395			x0/zero	4475899	374391237	2667856	4655533339	2253566075	461794889	1579853395		
x1/r	5812	8182	362655	6614	129527	7473	129527			x1/r	3091181	1089697558	1302509	1433275269	1449301801	259580782	6722249109			x1/r	3091181	1089697558	1302509	1433275269	1449301801	259580782	6722249109			x1/r	3091181	1089697558	1302509	1433275269	1449301801	259580782	6722249109		
x2/sp	13359	17019	288180	15256	168528	17580	519922			x2/sp	6437556	3075114960	612594837	612594837	3208313247	5135770202	12041755512			x2/sp	6437556	3075114960	612594837	612594837	3208313247	5135770202	12041755512			x2/sp	6437556	3075114960	612594837	612594837	3208313247	5135770202	12041755512		
x3/gp	997	3	5353	1108	4808	1329	13398			x3/gp	18171	2	63299	1634553	122141943	805824664	929682632			x3/gp	18171	2	63299	1634553	122141943	805824664	929682632			x3/gp	18171	2	63299	1634553	122141943	805824664	929682632		
x4/ra	374	535	511	476	726	480	3112			x4/ra	5028	4078	4358	1886	10968984	10968984	70868904			x4/ra	5028	4078	4358	1886	10968984	10968984	70868904			x4/ra	5028	4078	4358	1886	10968984	10968984	70868904		
x5/rd	205	319	1952	317	3807	612	402			x5/rd	16750	12	59607	1296734873	6869180	265287553	1568969795			x5/rd	16750	12	59607	1296734873	6869180	265287553	1568969795			x5/rd	16750	12	59607	1296734873	6869180	265287553	1568969795		
x6/t1	1190	1549	14236	1570	11551	1919	32015			x6/t1	112897	90	2039293039	192875537	798436994	3030830183	3030830183			x6/t1	112897	90	2039293039	192875537	798436994	3030830183	3030830183			x6/t1	112897	90	2039293039	192875537	798436994	3030830183	3030830183		
x7/t2	220	236	1616	577	376	376	3276			x7/t2	26129	19	25107	13514095	8659547	150219795	150219795			x7/t2	26129	19	25107	13514095	8659547	150219795	150219795			x7/t2	26129	19	25107	13514095	8659547	150219795	150219795		
x8/rd/tp	9624	17533	307313	11809	102921	12982	362382			x8/rd/tp	50586780	677081431	1656653	3335711878	1502419651	2321570646	13982127239			x8/rd/tp	50586780	677081431	1656653	3335711878	1502419651	2321570646	13982127239			x8/rd/tp	50586780	677081431	1656653	3335711878	1502419651	2321570646	13982127239		
x9/t1	5289	7132	158332	6617	63935	7365	248670			x9/t1	496551	1133051977	1158792	945772455	1008644088	1684675964	6773840667			x9/t1	496551	1133051977	1158792	945772455	1008644088	1684675964	6773840667			x9/t1	496551	1133051977	1158792	945772455	1008644088	1684675964	6773840667		
x10/a0	13431	17814	376194	15731	158287	18899	596076			x10/a0	233949	1060568609	2218179	3439794463	2811488742	938481829	16700891771			x10/a0	233949	1060568609	2218179	3439794463	2811488742	938481829	16700891771			x10/a0	233949	1060568609	2218179	3439794463	2811488742	938481829	16700891771		
x11/a1	6930	9380	178105	8693	73509	10088	286705			x11/a1	1845985	401981231	1280316	2211394593	1414674649	2969795360	7000973954			x11/a1	1845985	401981231	1280316	2211394593	1414674649	2969795360	7000973954			x11/a1	1845985	401981231	1280316	2211394593	1414674649	2969795360	7000973954		
x12/a2	6918	9339	157010	8806	73088	10456	237415			x12/a2	2370888	973621497	1494411	2026670718	1145194695	3843137772	7992426981			x12/a2	2370888	973621497	1494411	2026670718	1145194695	3843137772	7992426981			x12/a2	2370888	973621497	1494411	2026670718	1145194695	3843137772	7992426981		
x13/a3	9087	13512	188092	12270	14907	179845	4490101349			x13/a3	179845	4490101349	2373021	222885244	1610981322	766923217	16847246096			x13/a3	179845	4490101349	2373021	222885244	1610981322	766923217	16847246096			x13/a3	179845	4490101349	2373021	222885244	1610981322	766923217	16847246096		
x14/a4	14483	25269	391686	18218	76030	22284	547970			x14/a4	47289052	23697520218	3533709	5162987579	2679439841	13743375938	45334146337			x14/a4	47289052	23697520218	3533709	5162987579	2679439841	13743375938	45334146337			x14/a4	47289052	23697520218	3533709	5162987579	2679439841	13743375938	45334146337		
x15/a5	27659	57068	758980	34243	192456	40276	1110682			x15/a5	96587179	70768342550	6781474	7858201177	4196188034	20213596008	1301464111			x15/a5	96587179	70768342550	6781474	7858201177	4196188034	20213596008	1301464111			x15/a5	96587179	70768342550	6781474	7858201177	4196188034	20213596008	1301464111		
x16/a6	2302	2841	22256	2776	8886	3311	42372			x16/a6	34787	1923208	814210	267229624	433003791	1245112456	1965742776			x16/a6	34787	1923208	814210	267229624	433003791	1245112456	1965742776			x16/a6	34787	1923208	814210	267229624	433003791	1245112456	1965742776		
x17/a7	1893	2395	14345	2414	5860	2907	29814			x17/a7	142084	5697	362579	3405503471	326038866	813478122	4545528819			x17/a7	142084	5697	362579	3405503471	326038866	813478122	4545528819			x17/a7	142084	5697	362579	3405503471	326038866	813478122	4545528819		
x18/a2	3667	5109	110545	4777	43091	5538	172727			x18/a2	265825	1291861367	899582	519382864	673338494	337330906	4087087218			x18/a2	265825	1291861367	899582	519382864	673338494	337330906	4087087218			x18/a2	265825	1291861367	899582	519382864	673338494	337330906	4087087218		
x19/a3	4198	4332	87226	4198	31052	4902	134987			x19/a3	261670	291002643	798674	869325759	527360313	1408968797	309771856			x19/a3	261670	291002643	798674	869325759	527360313	1408968797	309771856			x19/a3	261670	291002643	798674	869325759	527360313	1408968797	309771856		
x20/a4	2498	3055	65043	3002	22598	3646	99842			x20/a4	178543	309732441	597204	733050013	317665400	150545514	2866839115			x20/a4	178543	309732441	597204	733050013	317665400	150545514	2866839115			x20/a4	178543	309732441	597204	733050013	317665400	150545514	2866839115		
x21/a5	2342	2953	33692	2970	17053	3541	82551			x21/a5	113318	443292810	413717	1000103544	295170451	1099157121	286833965			x21/a5	113318	443292810	413717	1000103544	295170451	1099157121	286833965			x21/a5	113318	443292810	413717	1000103544	295170451	1099157121	286833965		
x22/a6	1986	2434	46731	2432	12519	2905	69007			x22/a6	114324	167	383275	351010949	241086676	1066188972	1658784363			x22/a6	114324	167	383275	351010949	241086676	1066188972	1658784363			x22/a6	114324	167	383275	351010949	241086676	1066188972	1658784363		
x23/a7	1899	2545	43148	2438	12781	1819	2805			x23/a7	75251	329881364	193358	2143454	153466324	619002563	1102719930			x23/a7	75251	329881364	193358	2143454	153466324	619002563	1102719930			x23/a7	75251	329881364	193358	2143454	153466324	619002563	1102719930		
x24/a8	1052	1240	35853	2037	7040	2430	54822			x24/a8	189478	23848802	1234803	2324803	146892246	245825956	646892246			x24/a8	189478	23848802	1234803	2324803	146892246	245825956	646892246			x24/a8	189478	23848802	1234803	2324803	146892246	245825956	646892246		
x25/a9	1692	2182	2338	2529	9440	2598	2338			x25/a9	108819	498	85820	533649058	17172321	546892246	2517274962			x25/a9	108819	498	85820	533649058	17172321	546892246	2517274962			x25/a9	108819	498	85820	533649058	17172321	546892246	2517274962		
x26/a10	1899	2545	43148	2438	12781	1819	2805			x26/a10	189478	23848802	1234803	2324803	146892246	245825956	646892246			x26/a10	189478	23848802	1234803	2324803	146892246	245825956	646892246			x26/a10	189478	23848802	1234803	2324803	146892246	245825956	646892246		
x27/a11	1546	2162	29639	2184	7054	2633	45219			x27/a11	154611	209100643	798674	869325759	527360313	1408968797	309771856			x27/a11	154611	209100643	798674	869325759	527360313	1408968797	309771856			x27/a11	154611	209100643	798674	869325759</					