JavaGI Benchmarks

Date: 2009-03-07, 2009-07-21, 2009-07029
Machine: Thinkpad x60s, DualCore, 1,67 Ghz, 3 GB RAM

Updated 2009-07-21 to incorporate new xpath benchmark data
Updated 2009-07-27 to incorporate new cast, instanceof, and identity benchmark data
Updated 2009-07-29 to incorporate new xpath benchmark data
Updated 2009-08-04 to incorporate new xpath benchmark data
Updated 2009-09-28 to incorporate new xpath benchmark data

Language	Benchmark	Run	Time in ms	Mean, standard dev., median of the last 3 runs (the last 5 runs for dacapo)		
java	Interpreter	1	971			
java	Interpreter	2	887			
java	Interpreter	3	882			883
java	Interpreter	4	886			2.65
java	Interpreter	5	881			882
javagi	Interpreter	1	2398			
javagi	Interpreter	2	2103			
javagi	Interpreter	3	2106			2110.67
javagi	Interpreter	4	2120			8.08
javagi	Interpreter	5	2106			2106
java	CastToInterface	1	162			
java	CastToInterface	2	108			
java	CastToInterface	3	94			97.67
java	CastToInterface	4	103			4.73
java	CastToInterface	5	96			96
java	CastToClass1	1	114			
java	CastToClass1	2	111			
java	CastToClass1	3	118			122
java	CastToClass1	4	127			4.58
java	CastToClass1	5	121			121
java	CastToClass2	1	110			
java	CastToClass2	2	113			
java	CastToClass2	3	142			127.33
java	CastToClass2	4	119			12.74
java	CastToClass2	5	121			121
javagi	CastToInterface	1	1140			
javagi	CastToInterface	2	903			
javagi	CastToInterface	3	869			895.67
javagi	CastToInterface	4	931			31.9
javagi	CastToInterface	5	887			887
javagi	CastToClass1	1	450			
javagi	CastToClass1	2	435			
javagi	CastToClass1	3	435			449
javagi	CastToClass1	4	448			14.53
javagi	CastToClass1	5	464			448
javagi	CastToClass2	1	105			
javagi	CastToClass2	2	105			
javagi	CastToClass2	3	113			119.33
javagi	CastToClass2	4	127			7.09
javagi	CastToClass2	5	118			118
java	InstanceOfInterface	1	110			
java	InstanceOfInterface	2	112			

			raw	
java	InstanceOfInterface	3	112	115.67
java	InstanceOfInterface	4	119	3.51
java	InstanceOfInterface	5	116	116
java	InstanceOfClass1	1	110	
java	InstanceOfClass1	2	108	
java	InstanceOfClass1	3	109	115.67
java	InstanceOfClass1	4	116	6.51
java	InstanceOfClass1	5	122	116
java	InstanceOfClass2	1	110	
java	InstanceOfClass2	2	110	
java	InstanceOfClass2	3	110	114.67
java	InstanceOfClass2	4	116	4.16
java	InstanceOfClass2	5	118	116
javagi	InstanceOfInterface	1	794	
javagi	InstanceOfInterface	2	780	
javagi	InstanceOfInterface	3	779	784.67
javagi	InstanceOfInterface	4	788	4.93
javagi	InstanceOfInterface	5	787	787
javagi	InstanceOfClass1	1	429	
javagi	InstanceOfClass1	2	426	
javagi	InstanceOfClass1	3	432	437.33
javagi	InstanceOfClass1	4	438	5.03
javagi	InstanceOfClass1	5	442	438
javagi	InstanceOfClass2	1	107	
javagi	InstanceOfClass2	2	107	
javagi	InstanceOfClass2	3	108	113.33
javagi	InstanceOfClass2	4	115	4.73
javagi	InstanceOfClass2	5	117	115
java	EqualityObject	1	668	
java	EqualityObject	2	693	
java	EqualityObject	3	715	703
java	EqualityObject	4	695	10.58
java	EqualityObject	5	699	699
java	EqualityObjectNoClass	1	672	
java	EqualityObjectNoClass	2	709	
java	EqualityObjectNoClass	3	706	697.67
java	EqualityObjectNoClass	4	694	7.23
java	EqualityObjectNoClass	5	693	694
java	EqualityPrimitive	1	668	
java	EqualityPrimitive	2	653	
java	EqualityPrimitive	3	711	711.33
java	EqualityPrimitive	4	711	0.58
java	EqualityPrimitive	5	712	711
javagi	EqualityObject	1	806	
javagi	EqualityObject	2	887	
javagi	EqualityObject	3	886	908.67
javagi	EqualityObject	4	899	28.75
javagi	EqualityObject	5	941	899
javagi	EqualityObjectNoClass	1	672	
javagi	EqualityObjectNoClass	2	693	
javagi	EqualityObjectNoClass	3	684	690.33
javagi	EqualityObjectNoClass	4	697	6.51
javagi	EqualityObjectNoClass	5	690	690
javagi	EqualityPrimitive	1	668	
javagi	EqualityPrimitive	2	653	
javagi	EqualityPrimitive	3	712	712

			raw	
javagi	EqualityPrimitive	4	712	0
javagi	EqualityPrimitive	5	712	712
javagi	dacapo-antlr	1	5413	
javagi	dacapo-antlr	2	4256	
javagi	dacapo-antlr	3	3355	
javagi	dacapo-antlr	4	3115	
javagi	dacapo-antlr	5	2474	
javagi	dacapo-antlr	6	2373	
javagi	dacapo-antlr	7	2010	2034.2
javagi	dacapo-antlr	8	2028	228.48
javagi	dacapo-antlr	9	2004	2010
javagi	dacapo-antlr	10	2385	
javagi	dacapo-antlr	11	1744	
javagi	dacapo-jython	1	13301	
javagi	dacapo-jython	2	8219	
javagi	dacapo-jython	3	7539	
javagi	dacapo-jython	4	5382	
javagi	dacapo-jython	5	4814	
javagi	dacapo-jython	6	4247	
javagi	dacapo-jython	7	3972	3961
javagi	dacapo-jython	8	3990	25.12
javagi	dacapo-jython	9	3956	3965
javagi	dacapo-jython	10	3965	
javagi	dacapo-jython	11	3922	
java	dacapo-antlr	1	5178	
java	dacapo-antlr	2	4282	
java	dacapo-antlr	3	3504	
java	dacapo-antlr	4	2979	
java	dacapo-antlr	5	2213	
java	dacapo-antlr	6	4255	
java	dacapo-antlr	7	1939	1971.4
java	dacapo-antlr	8	1806	276.87
java	dacapo-antlr	9	2422	1939
java	dacapo-antlr	10	1992	
java	dacapo-antlr	11	1698	
java	dacapo-jython	1	13034	
java	dacapo-jython	2	8038	
java	dacapo-jython	3	7543	
java	dacapo-jython	4	5523	
java	dacapo-jython	5	4918	
java	dacapo-jython	6	4205	
java	dacapo-jython	7	3887	3872
java	dacapo-jython	8	3875	20.87
java	dacapo-jython	9	3886	3876
java	dacapo-jython	10	3836	
java	dacapo-jython	11	3876	
java	Dom4jPerformance	1	970	
java	Dom4jPerformance	2	511	
java	Dom4jPerformance	3	541	
java	Dom4jPerformance	4	507	
java	Dom4jPerformance	5	511	508.67
java	Dom4jPerformance	6	507	2.08
java	Dom4jPerformance	7	508	508
java	Dom4jTests	1	1802	
java	Dom4jTests	2	873	
java	Dom4jTests	3	511	

			raw	
java	Dom4jTests	4	457	
java	Dom4jTests	5	465	419.33
java	Dom4jTests	6	418	45.01
java	Dom4jTests	7	375	418
java	JDomPerformance	1	888	
java	JDomPerformance	2	435	
java	JDomPerformance	3	428	
java	JDomPerformance	4	428	
java	JDomPerformance	5	430	431.33
java	JDomPerformance	6	437	5.13
java	JDomPerformance	7	427	430
java	JDomTests	1	1527	
java	JDomTests	2	792	
java	JDomTests	3	409	
java	JDomTests	4	432	
java	JDomTests	5	304	307
java	JDomTests	6	340	31.61
java	JDomTests	7	277	304
javagi	Dom4jPerformance	1	2253	
javagi	Dom4jPerformance	2	1632	
javagi	Dom4jPerformance	3	1568	
javagi	Dom4jPerformance	4	1576	
javagi	Dom4jPerformance	5	1581	1584.67
javagi	Dom4jPerformance	6	1581	6.35
javagi	Dom4jPerformance	7	1592	1581
javagi	Dom4jTests	1	2347	
javagi	Dom4jTests	2	732	
javagi	Dom4jTests	3	422	
javagi	Dom4jTests	4	626	
javagi	Dom4jTests	5	435	451
javagi	Dom4jTests	6	451	16
javagi	Dom4jTests	7	467	451
javagi	JDomPerformance	1	2044	
javagi	JDomPerformance	2	1525	
javagi	JDomPerformance	3	1520	
javagi	JDomPerformance	4	1556	
javagi	JDomPerformance	5	1572	1552.67
javagi	JDomPerformance	6	1527	23.16
javagi	JDomPerformance	7	1559	1559
javagi	JDomTests	1	2154	
javagi	JDomTests	2	594	
javagi	JDomTests	3	633	
javagi	JDomTests	4	740	
javagi	JDomTests	5	479	481
javagi	JDomTests	6	414	68.02
javagi	JDomTests	7	550	479

Methodcall Benchmark

Benchmark	Run	Time in ms	Mean, standard dev., median of the last 3 runs
Virtual	1	1145	
Virtual	2	3111	
Virtual	3	2965	2965
Virtual	4	2965	0

		raw	
Virtual	5	2965	2965
Interface	1	896	
Interface	2	3307	
Interface	3	3723	3723.67
Interface	4	3724	0.58
Interface	5	3724	3724
Retroactive	1	9661	
Retroactive	2	9176	
Retroactive	3	9176	9176.33
Retroactive	4	9176	0.58
Retroactive	5	9177	9176
Reflection	1	170590	
Reflection	2	168880	
Reflection	3	169960	169950
Reflection	4	170170	225.17
Reflection	5	169720	169960

summary

	Java	JavaGI	Java	JavaGI
interpreter	1	2.39	883	2110.67
dom4j-perf	1	3.11	509	1585
dom4j-tests	1	1.08	419.33	451
jdom-perf	1	3.6	431	1553
jdom-tests	1	1.57	307	481
antlr	1	1.03	1971.4	2034.2
jython	1	1.02	3872	3961

	Java	JavaGI	Java	JavaGI
cast1	1	9.17	97.67	895.67
cast2	1	3.68	122	449
cast3	1	0.94	127.33	119.33
instanceof1	1	6.78	115.67	784.67
instanceof2	1	3.78	115.67	437.33
instanceof3	1	0.99	114.67	113.33
identity1	1	1.29	703	908.67
identity2	1	0.99	697.67	690.33

diagramm1
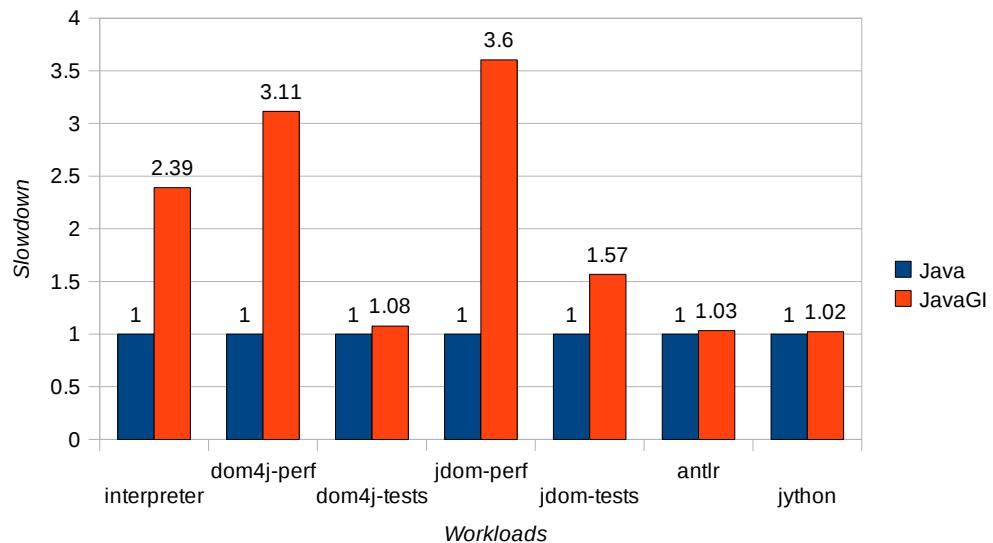
diagramm2
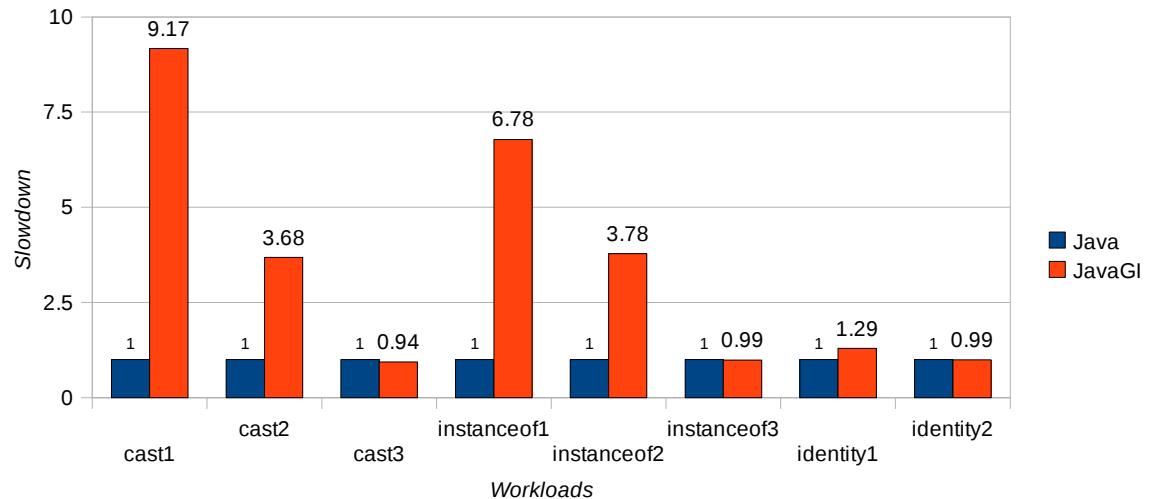
diagramm2

methodcalls

Benchmark	Run	Time in ms	Mean, standard dev., median of the last 3 runs
Virtual	1	1145	
Virtual	2	3111	
Virtual	3	2965	2965
Virtual	4	2965	0
Virtual	5	2965	2965
Interface	1	896	
Interface	2	3307	
Interface	3	3723	3723.67
Interface	4	3724	0.58
Interface	5	3724	3724
Retroactive	1	9661	
Retroactive	2	9176	
Retroactive	3	9176	9176.33
Retroactive	4	9176	0.58
Retroactive	5	9177	9176
Reflection	1	170590	
Reflection	2	168880	
Reflection	3	169960	169950
Reflection	4	170170	225.17
Reflection	5	169720	169960

	Factor	
virtual	1	2965
interface	1.26	3723.67
retroactive	3.09	9176.33
reflection	57.32	169950

diagramm3

Bar chart titled "diagramm3" with y-axis labeled *Slowdown* (0 to 60) and x-axis labeled *Workloads*. Values: virtual = 1, interface = 1.26, retroactive = 3.09, reflection = 57.32.