Ingeniería Informática del Software

Diseño y Pruebas

Informe jMeter – D10: Item 5.

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Índice

Introducción

En las próximas páginas se mostrará un análisis de las pruebas realizadas con la herramienta jMeter sobre nuestro proyecto.

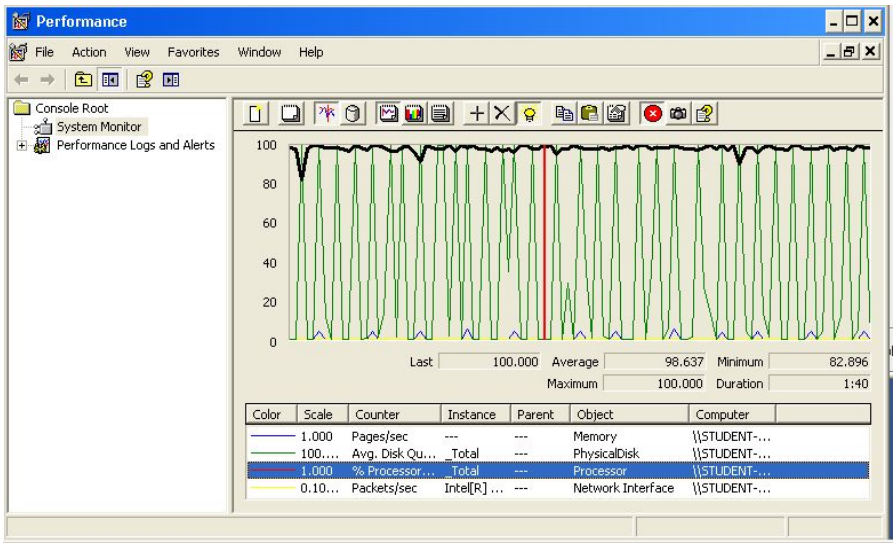
Se destacará cual es el máximo rendimiento del sistema y se mostrarán capturas que lo confirmen.

Análisis máximo rendimiento

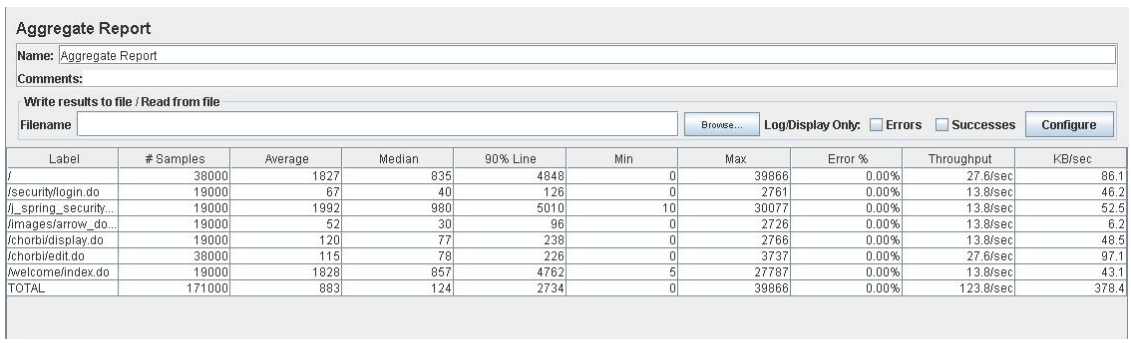
Mediante el uso de JMeter hemos obtenido un script para cada caso de uso. Para cada uno de ellos se han realizado pruebas primero comenzando con 10,20,50,100,150 y 200 usuarios. Al usar una carga de 200 usuarios ya comenzaba a dar fallos en la mayoría de casos de uso, pero al reducirlo a 190 aun funcionaban todos de forma correcta. A continuación, vamos a ver las capturas de cada caso de uso con una carga máxima de 190 usuarios.

Register

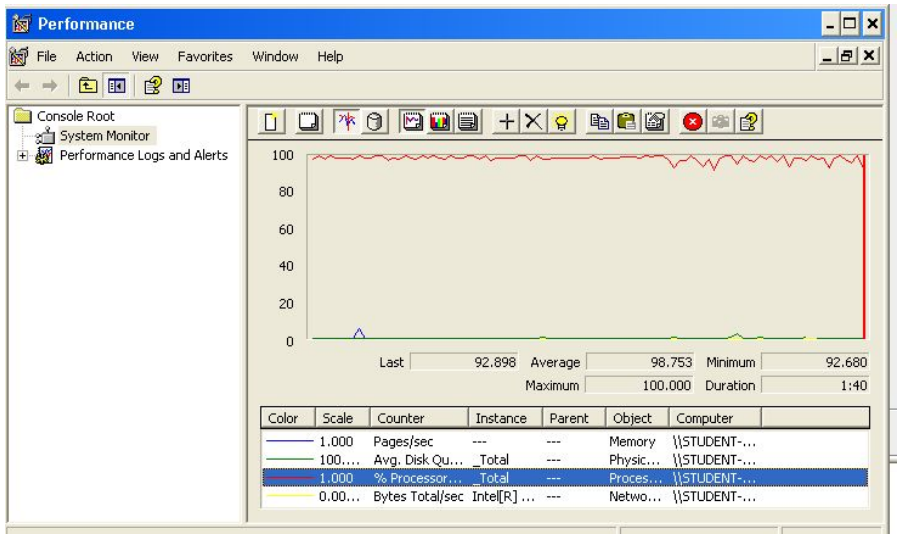
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	38000	498	270	1156	3	16549	0.00%	55.1/sec	191.1
/scripts/jmenu.js	19000	14	7	15	0	2136	0.00%	27.7/sec	292.8
/styles/common.c...	19000	12	7	15	0	2197	0.00%	27.7/sec	16.0
/styles/displaytag....	19000	10	7	14	0	1935	0.00%	27.7/sec	82.7
/styles/jmenu.css	19000	10	7	14	0	1609	0.00%	27.7/sec	52.2
/scripts/jquery.js	19000	34	26	61	2	1716	0.00%	27.7/sec	7458.9
/scripts/jquery-ui.js	19000	50	38	93	3	2073	0.00%	27.7/sec	12583.9
/images/cpu_Clo...	19000	11	6	15	0	1705	0.00%	27.7/sec	36.1
/images/logo.png	19000	9	7	14	0	2113	0.00%	27.7/sec	466.4
/chorbi/register.do	38000	612	405	1294	5	16072	0.00%	55.4/sec	521.8
/security/login.do	19000	17	8	18	1	1696	0.00%	27.7/sec	92.8
/j_spring_security...	19000	981	667	2089	8	22529	0.00%	27.7/sec	110.0
TOTAL	266000	241	17	717	0	22529	0.00%	385.8/sec	21794.8



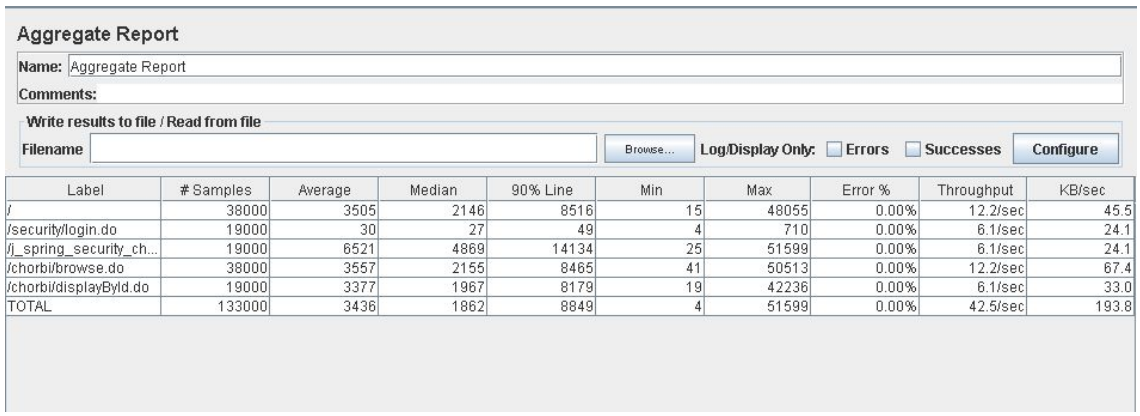
Edit personal data



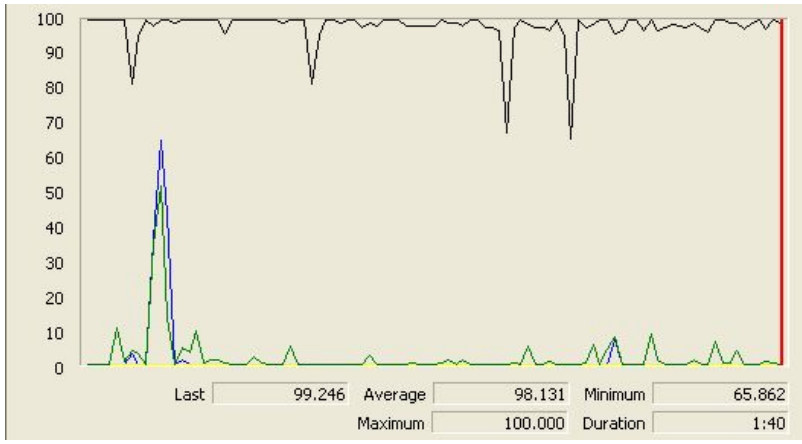
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	38000	1827	835	4848	0	39866	0.00%	27.6/sec	86.1
/security/login.do	19000	67	40	126	0	2761	0.00%	13.8/sec	46.2
/j_spring_security...	19000	1992	980	5010	10	30077	0.00%	13.8/sec	52.5
/images/arrow_do...	19000	52	30	96	0	2726	0.00%	13.8/sec	6.2
/chorbi/display.do	19000	120	77	238	0	2766	0.00%	13.8/sec	48.5
/chorbi/edit.do	38000	115	78	226	0	3737	0.00%	27.6/sec	97.1
/welcome/index.do	19000	1828	857	4762	5	27787	0.00%	13.8/sec	43.1
TOTAL	171000	883	124	2734	0	39866	0.00%	123.8/sec	378.4



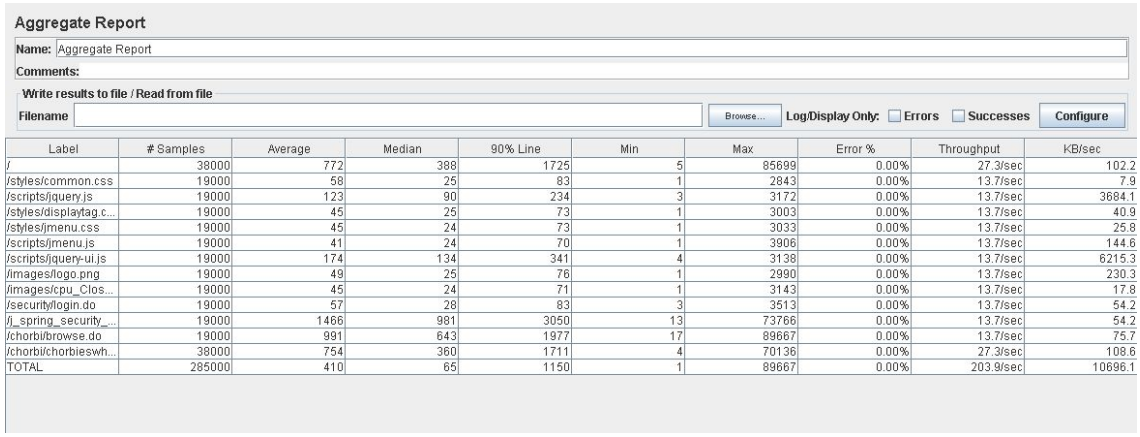
Browse chorbies



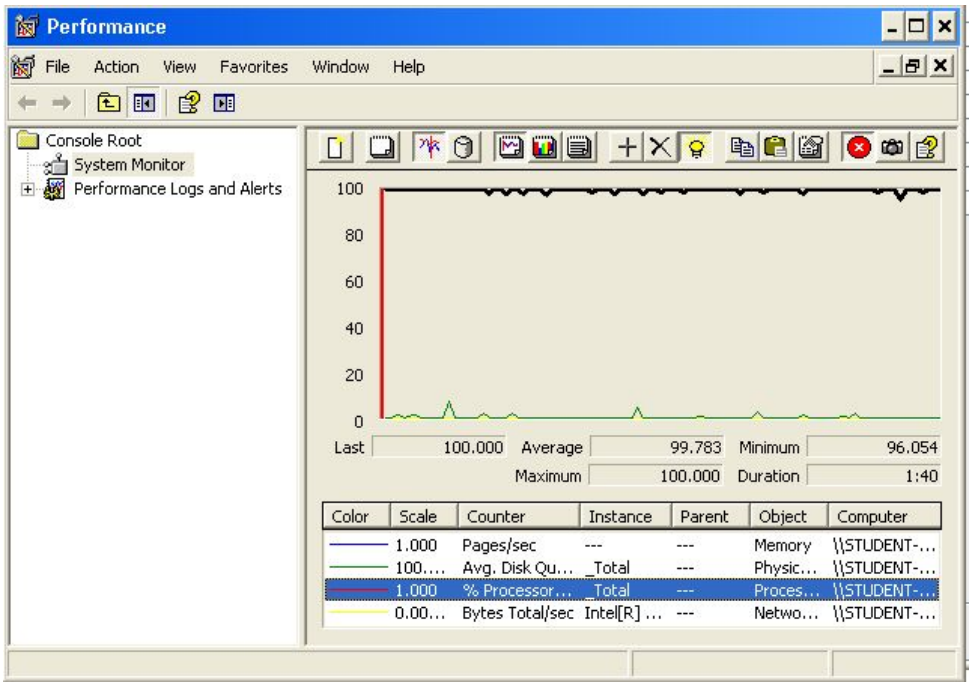
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	38000	3505	2146	8516	15	48055	0.00%	12.2/sec	45.5
/security/login.do	19000	30	27	49	4	710	0.00%	6.1/sec	24.1
/j_spring_security_ch...	19000	6521	4869	14134	25	51599	0.00%	6.1/sec	24.1
/chorbi/browse.do	38000	3557	2155	8465	41	50513	0.00%	12.2/sec	67.4
/chorbi/displayById.do	19000	3377	1967	8179	19	42236	0.00%	6.1/sec	33.0
TOTAL	133000	3436	1862	8849	4	51599	0.00%	42.5/sec	193.8



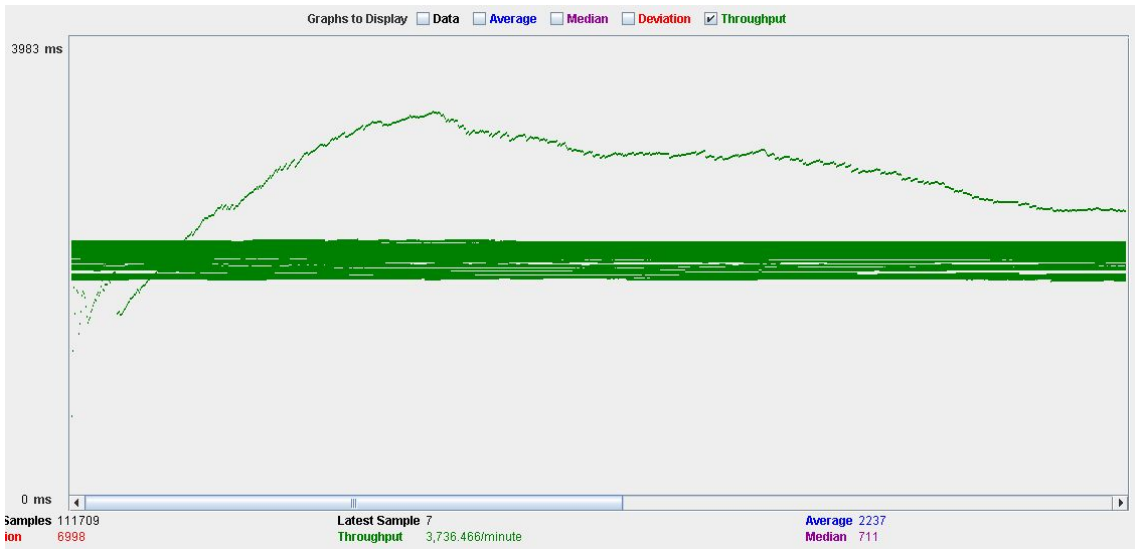
Browse chorbies who like them

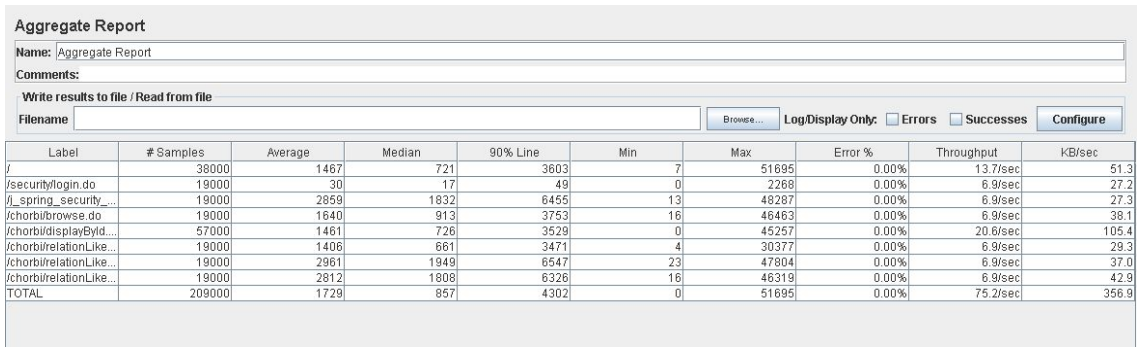


Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	38000	772	388	1725	5	85699	0.00%	27.3/sec	102.2
/styles/common.css	19000	58	25	83	1	2843	0.00%	13.7/sec	7.9
/scripts/jquery.js	19000	123	90	234	3	3172	0.00%	13.7/sec	3684.1
/styles/displaytag.c...	19000	45	25	73	1	3003	0.00%	13.7/sec	40.9
/styles/jmenu.css	19000	45	24	73	1	3033	0.00%	13.7/sec	25.8
/scripts/jmenu.js	19000	41	24	70	1	3906	0.00%	13.7/sec	144.6
/scripts/jquery-ui.js	19000	174	134	341	4	3138	0.00%	13.7/sec	6215.3
/images/logo.png	19000	49	25	76	1	2990	0.00%	13.7/sec	230.3
/images/cpu_Clos...	19000	45	24	71	1	3143	0.00%	13.7/sec	17.8
/security/login.do	19000	57	28	83	3	3513	0.00%	13.7/sec	54.2
/j_spring_security_...	19000	1466	981	3050	13	73766	0.00%	13.7/sec	54.2
/chorbi/browse.do	19000	991	643	1977	17	89667	0.00%	13.7/sec	75.7
/chorbi/chorbieswh...	38000	754	360	1711	4	70136	0.00%	27.3/sec	108.6
TOTAL	285000	410	65	1150	1	89667	0.00%	203.9/sec	10696.1



Like and cancel like





Aggregate Report

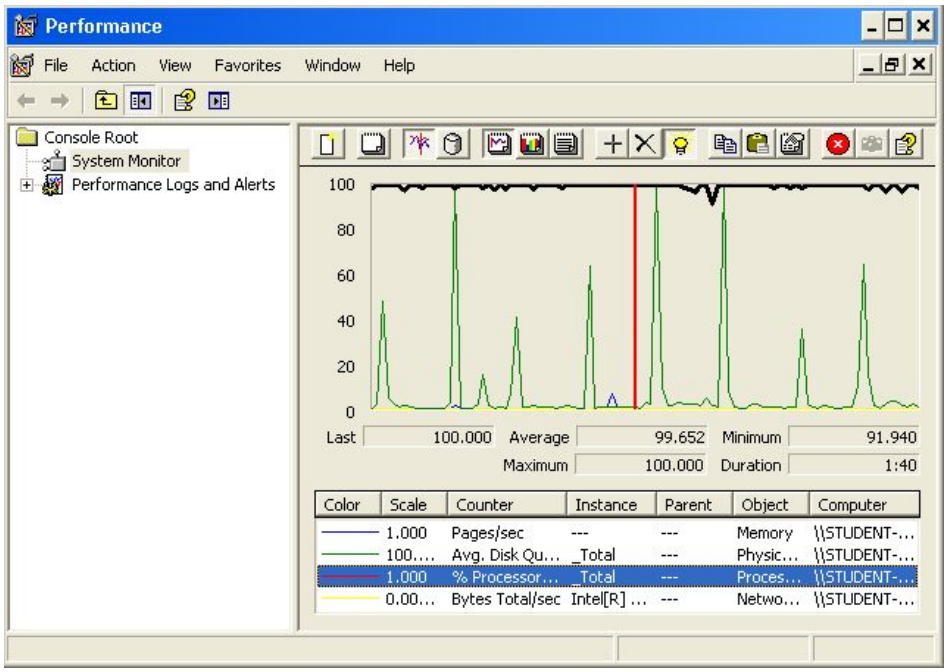
Name: Aggregate Report

Comments:

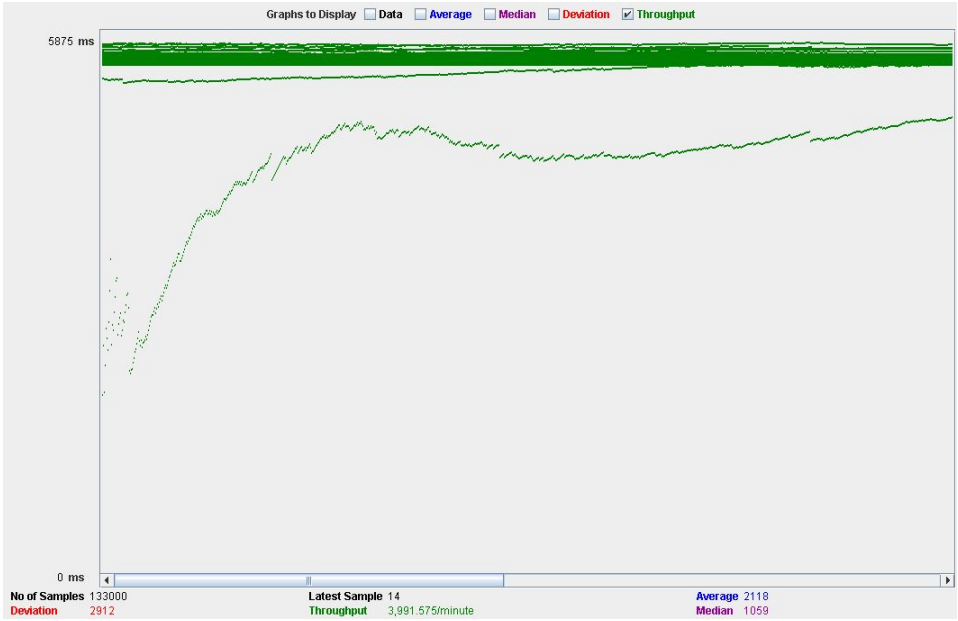
Write results to file / Read from file

Filename Browse... Log/Display Only: Errors Successes Configure

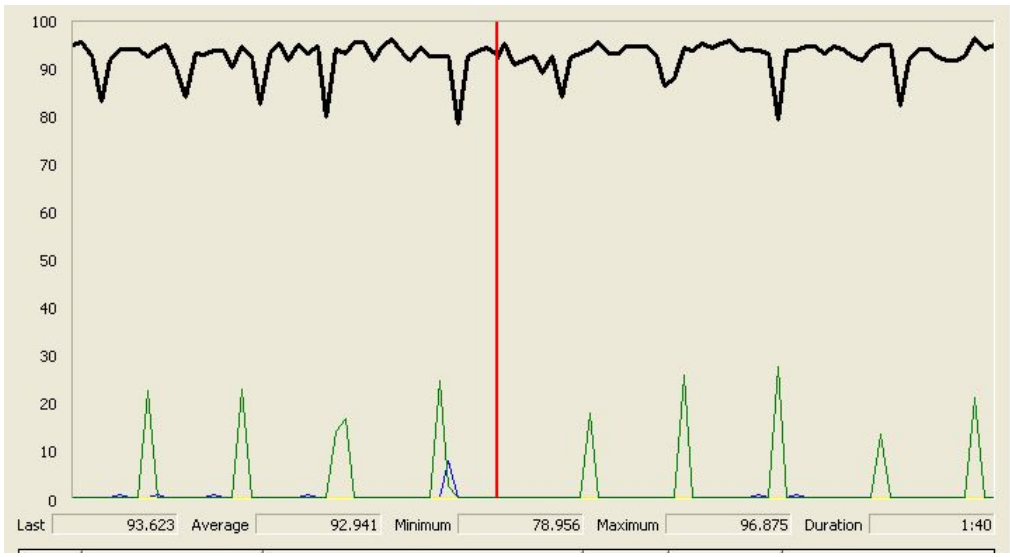
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	38000	1467	721	3603	7	51695	0.00%	13.7/sec	51.3
/security/login.do	19000	30	17	49	0	2268	0.00%	6.9/sec	27.2
/j_spring_security_...	19000	2859	1832	6455	13	48287	0.00%	6.9/sec	27.3
/chorbi/browse.do	19000	1640	913	3753	16	46463	0.00%	6.9/sec	38.1
/chorbi/displayById....	57000	1461	726	3529	0	45257	0.00%	20.6/sec	105.4
/chorbi/relationLike...	19000	1406	661	3471	4	30377	0.00%	6.9/sec	29.3
/chorbi/relationLike...	19000	2961	1949	6547	23	47804	0.00%	6.9/sec	37.0
/chorbi/relationLike...	19000	2812	1808	6326	16	46319	0.00%	6.9/sec	42.9
TOTAL	209000	1729	857	4302	0	51695	0.00%	75.2/sec	356.9


Performance
File Action View Favorites Window Help
Console Root
System Monitor
Performance Logs and Alerts
100
80
60
40
20
0
Last 100.000 Average 99.652 Minimum 91.940
Maximum 100.000 Duration 1:40
Color Scale Counter Instance Parent Object Computer
1.000 Pages/sec --- --- Memory \\STUDENT-...
100.... Avg. Disk Qu... _Total --- Physic... \\STUDENT-...
1.000 % Processor... _Total --- Proces... \\STUDENT-...
0.00... Bytes Total/sec Intel[R] ... --- Netwo... \\STUDENT-...

Edit searchTemplate and browse results

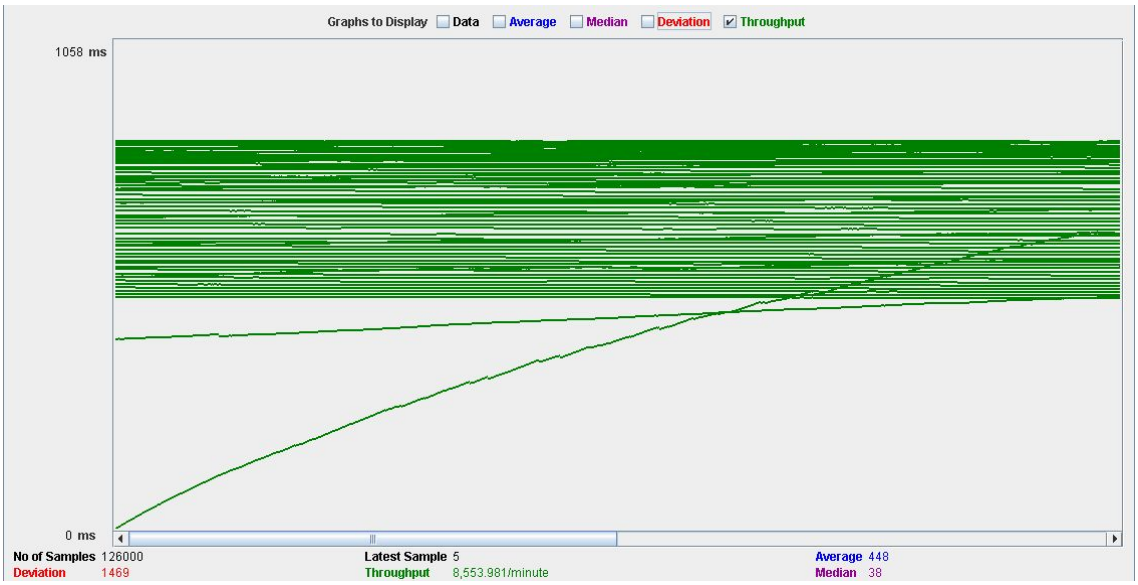


Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	38000	2070	1117	5189	28	40844	0.00%	19.0/sec	71.1
/security/login...	19000	24	14	52	1	365	0.00%	9.5/sec	37.7
/j_spring_sec...	19000	4134	3018	9140	32	44796	0.00%	9.5/sec	37.7
/chorbi/searc...	19000	2125	1181	5294	6	38881	0.00%	9.5/sec	48.6
/chorbi/searc...	38000	2202	1286	5322	8	36810	0.00%	19.1/sec	115.8
TOTAL	133000	2118	1059	5597	1	44796	0.00%	66.5/sec	310.0

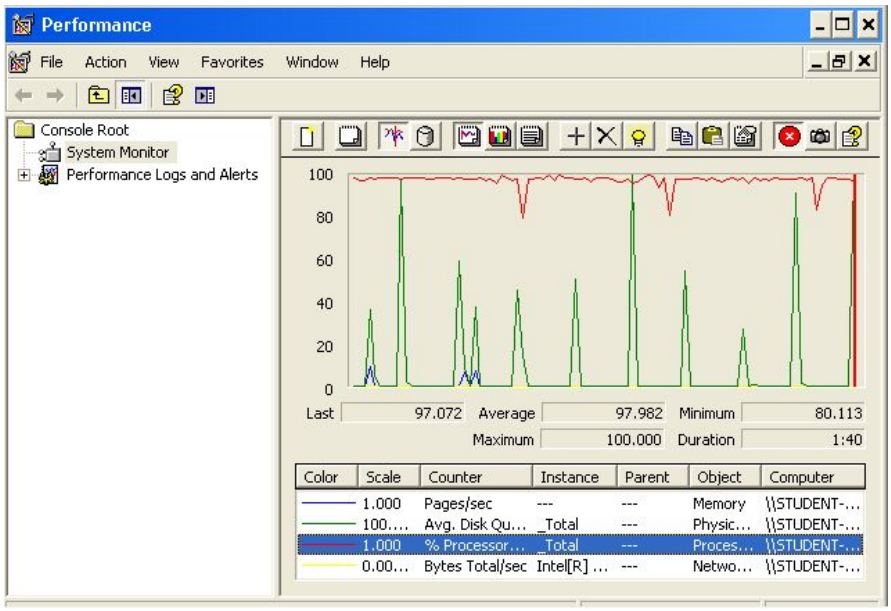


Write chirp

Para realizar el test de write chirp hemos tenido que realizarlo con 100 usuarios y 70 loops, con 190 funcionaba correctamente pero al no borrar los mensajes que se iban creando los tiempos aumentaban mucho al tener que cargar la lista de mensajes enviados y terminaba quedándose la máquina colgada.



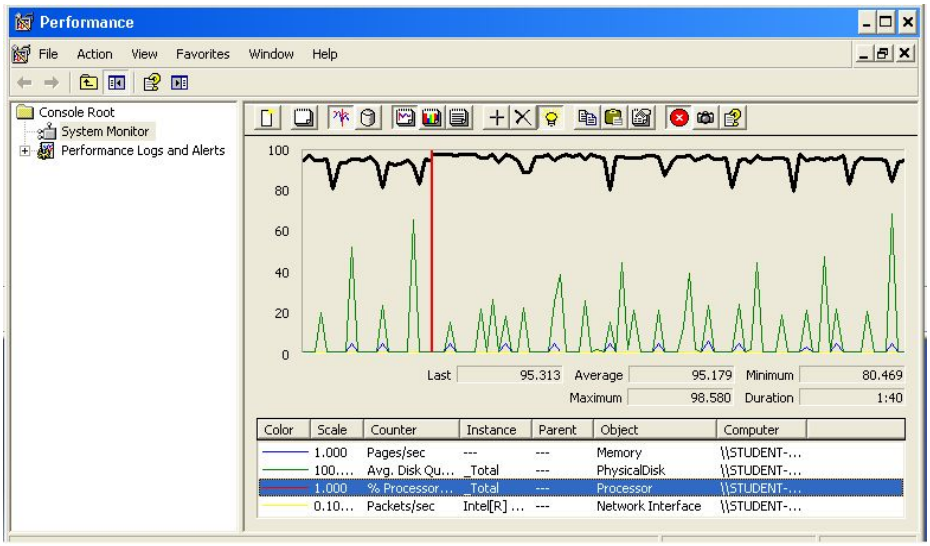
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	14000	888	373	1922	3	37059	0.00%	15.9/sec	54.8
/scripts/jquery.js	7000	83	56	181	2	815	0.00%	8.0/sec	2147.6
/scripts/jmenu.js	7000	28	13	57	1	1140	0.00%	8.0/sec	84.3
/styles/jmenu.css	7000	26	12	55	1	1143	0.00%	8.0/sec	15.0
/styles/common.c...	7000	24	12	49	1	1083	0.00%	8.0/sec	4.6
/styles/displaytag....	7000	24	12	50	1	671	0.00%	8.0/sec	23.8
/scripts/jquery-ui.js	7000	111	76	254	3	1012	0.00%	8.0/sec	3626.5
/images/logo.png	7000	24	12	52	1	477	0.00%	8.0/sec	134.4
/images/cpu_Clo...	7000	24	12	50	1	451	0.00%	8.0/sec	10.3
/favicon.ico	7000	39	22	84	1	905	0.00%	8.0/sec	713.8
/security/login.do	7000	37	17	84	3	561	0.00%	8.0/sec	26.6
/j_spring_security...	7000	1661	831	3377	9	46885	0.00%	8.0/sec	31.4
/images/arrow_do...	7000	26	13	55	1	622	0.00%	8.0/sec	3.5
/chirp/write.do	14000	1543	871	3106	11	59603	0.00%	16.0/sec	91.2
/chirp/sent.do	7000	1065	554	2050	14	43560	0.00%	8.0/sec	48.6
/images/arrow_off...	7000	28	14	60	1	523	0.00%	8.0/sec	3.5
TOTAL	126000	448	38	1119	1	59603	0.00%	142.6/sec	6967.1



Forward chirp

Para realizar el test de forward chirp hemos tenido que realizarlo con 100 usuarios y 70 loops, con 190 funcionaba correctamente pero al no borrar los mensajes que se iban creando los tiempos aumentaban mucho y terminaba quedándose la máquina colgada.

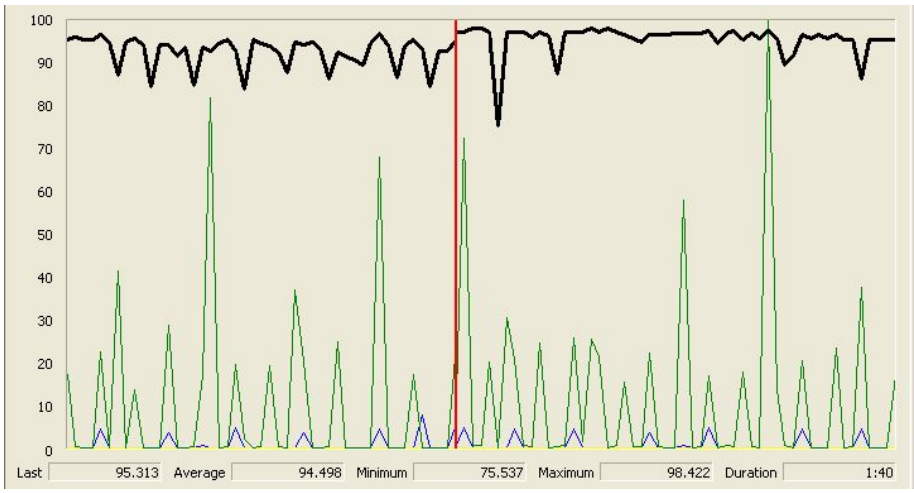
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	14000	1142	509	2460	4	44005	0.00%	10.9/sec	37.8
/styles/displaytag.c...	7000	34	18	70	1	599	0.00%	5.5/sec	16.3
/scripts/jmenu.js	7000	33	17	70	1	798	0.00%	5.5/sec	57.9
/styles/common.css	7000	32	17	68	1	748	0.00%	5.5/sec	3.1
/styles/jmenu.css	7000	31	16	64	1	781	0.00%	5.5/sec	10.3
/scripts/jquery-ui.js	7000	148	110	325	3	1051	0.00%	5.5/sec	2487.9
/scripts/jquery.js	7000	101	68	232	2	988	0.00%	5.5/sec	1474.9
/images/logo.png	7000	33	17	71	1	557	0.00%	5.5/sec	92.2
/images/cpu_Clos...	7000	33	16	71	1	873	0.00%	5.5/sec	7.1
/security/login.do	7000	46	23	113	3	531	0.00%	5.5/sec	18.3
/j_spring_security_...	7000	2194	1188	4570	10	59615	0.00%	5.5/sec	21.7
/images/arrow_do...	7000	33	17	69	1	583	0.00%	5.5/sec	2.4
/chirp/sent.do	14000	1389	773	2808	18	64221	0.00%	10.9/sec	66.7
/images/arrow_off....	7000	35	18	73	0	664	0.00%	5.5/sec	2.4
/chirp/forward.do	7000	1426	803	2857	12	51330	0.00%	5.5/sec	28.7
/chirp/forward.do?c...	7000	2583	1626	4996	43	62419	0.00%	5.5/sec	34.4
TOTAL	126000	657	67	1724	0	64221	0.00%	98.0/sec	4337.9



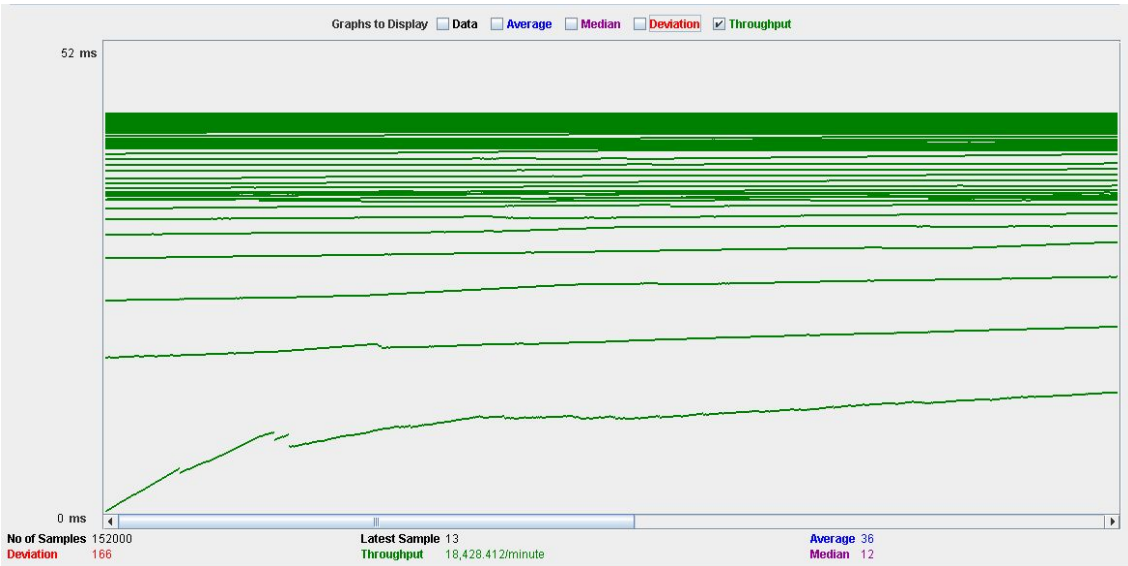
Reply chirp

Para realizar el test de reply chirp hemos tenido que realizarlo con 100 usuarios y 70 loops, con 190 funcionaba correctamente pero al no borrar los mensajes que se iban creando los tiempos aumentaban mucho y terminaba quedándose la máquina colgada.

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	14000	1258	359	3563	2	29357	0.00%	11.4/sec	42.5
/security/login.do	7000	53	18	179	2	678	0.00%	5.7/sec	22.6
/j_spring_securit...	7000	2504	1030	6877	6	35469	0.00%	5.7/sec	22.5
/chirp/received.do	7000	1456	594	3893	5	39110	0.00%	5.7/sec	34.5
/chirp/reply.do	7000	1382	457	3889	6	26859	0.00%	5.7/sec	67.1
/chirp/reply.do?c...	7000	2730	1284	7204	20	36125	0.00%	5.7/sec	35.6
/chirp/sent.do	7000	1416	530	3758	9	31083	0.00%	5.7/sec	34.6
TOTAL	56000	1507	410	4355	2	39110	0.00%	45.6/sec	258.3



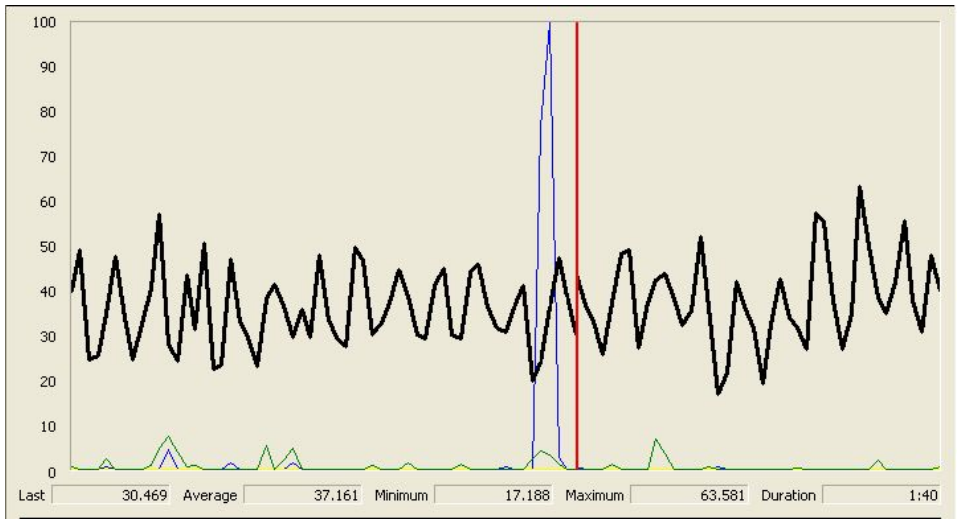
Delete chirp



Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	38000	42	12	50	2	4227	0.00%	77.3/sec	267.8
/security/login.do	19000	8	5	10	1	904	0.00%	38.9/sec	130.1
/j_spring_security_...	19000	82	25	94	3	6985	0.00%	38.9/sec	154.2
/chirp/received.do	19000	30	13	48	3	4656	0.00%	39.0/sec	142.5
/chirp/view.do	19000	24	9	30	2	3551	0.00%	39.1/sec	456.6
/chirp/view.do?chir...	19000	24	9	29	2	2488	0.00%	39.1/sec	456.9
/chirp/sent.do	19000	41	20	68	5	4620	0.00%	39.1/sec	196.9
TOTAL	152000	36	12	50	1	6985	0.00%	307.1/sec	1777.3

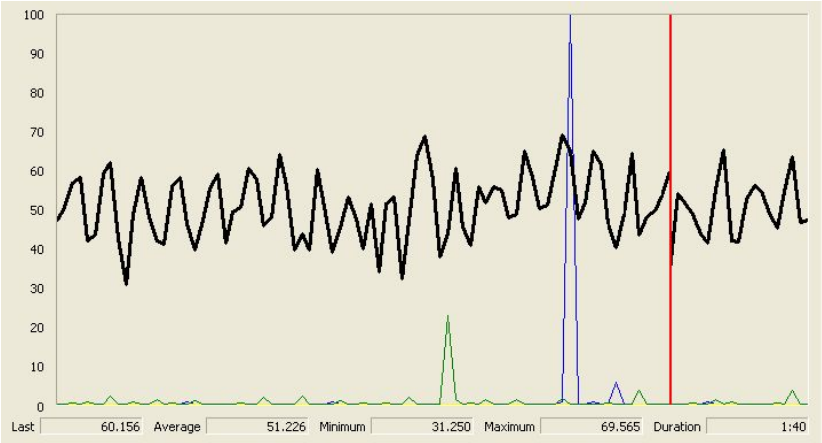
Ban and unban chorbi

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/security/login.do	19000	18	4	6	1	797	0.00%	41.1/sec	140.2
/j_spring_security_...	19000	18	10	26	2	1073	0.00%	41.1/sec	139.6
/	19000	8	5	13	2	694	0.00%	41.1/sec	130.8
/chorbi/browse.do	19000	21	6	9	2	1200	0.00%	41.1/sec	148.2
/chorbi/banUnban....	19000	22	6	9	1	1275	0.00%	41.2/sec	148.4
TOTAL	95000	17	6	14	1	1275	0.00%	204.3/sec	702.3



Edit cache time

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/security/login.do	19000	3	4	5	1	116	0.00%	41.4/sec	141.0
/j_spring_security_...	19000	14	10	22	2	505	0.00%	41.4/sec	185.4
/	19000	7	6	13	2	193	0.00%	41.4/sec	176.7
/admin/cacheTime/...	38000	11	9	18	2	839	0.00%	82.4/sec	379.9
/welcome/index.do	19000	7	6	12	2	542	0.00%	41.3/sec	176.5
TOTAL	114000	9	7	16	1	839	0.00%	246.5/sec	1053.7



Change banners

Aggregate Report

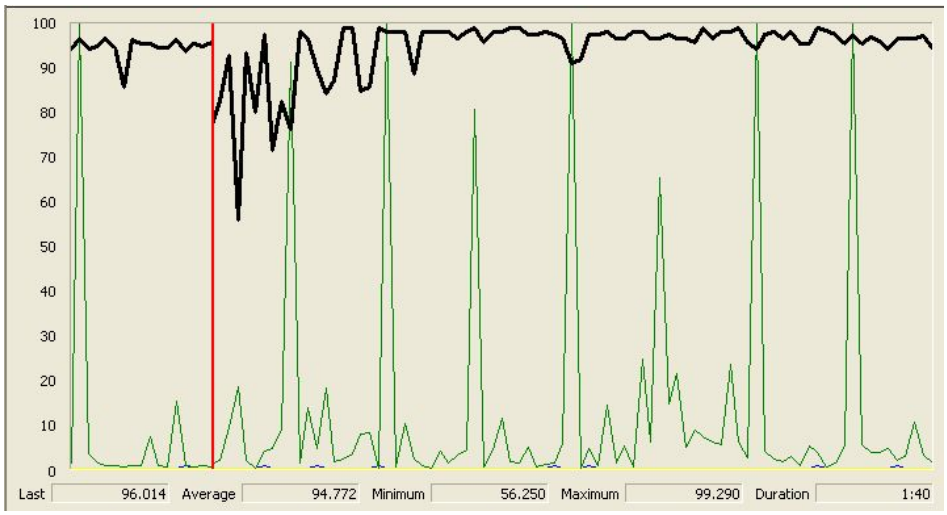
Name: Aggregate Report

Comments:

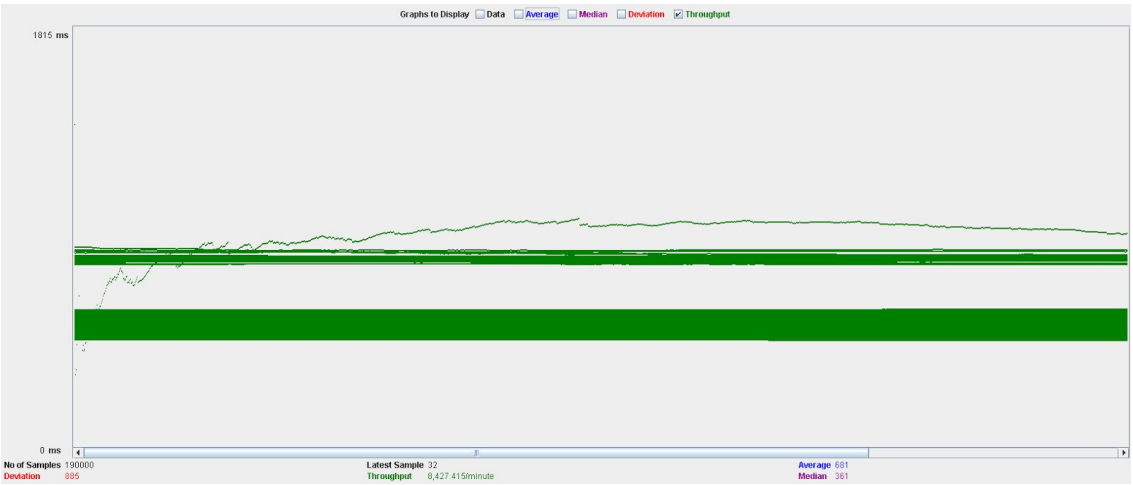
Write results to file / Read from file

Filename Browse... **Log/Display Only:** Errors Successes Configure

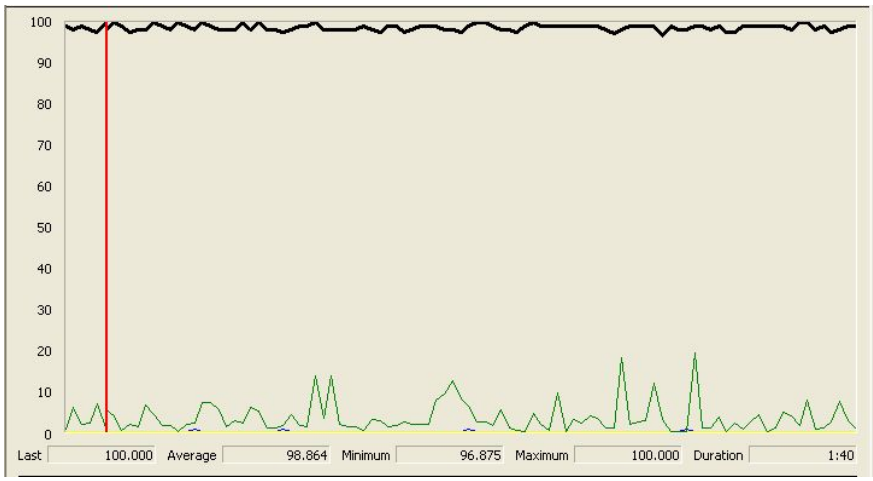
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	19000	9221	3590	22184	36	560728	0.00%	26.5/min	1.7
/security/lo...	9500	176	35	568	5	1537	0.00%	13.3/min	.7
/j_spring_...	9500	94534	8488	38088	65	38966297	0.00%	13.3/min	1.0
/administr...	9500	8246	2678	20640	7	500303	0.00%	13.3/min	1.0
/administr...	28500	8933	3263	21513	8	604857	0.00%	39.8/min	6.8
TOTAL	76000	18524	2760	21995	5	38966297	0.00%	1.8/sec	11.3



Dashboards



Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	76000	627	368	1590	2	10534	0.00%	56.2/sec	240.1
/security/login.do	38000	7	6	11	1	383	0.00%	28.1/sec	126.2
/j_spring_security_...	38000	1336	1069	2803	6	9635	0.00%	28.1/sec	126.4
/administrator/das...	38000	808	558	1786	20	8137	0.00%	28.1/sec	244.5
TOTAL	190000	681	361	1830	1	10534	0.00%	140.5/sec	737.1



Conclusiones

Como podemos observar en todos los test, el procesador es nuestro cuello de botella, si lo reemplazamos por un procesador más potente podríamos aumentar la cantidad de usuarios simultáneos.