

Performance report

Acme-Comics

Introduction

In order to evaluate the performance of the project, we split the functional requirements into use cases and developed one JMeter test per use case.

200 concurrent users were used in all tests, as when it was increased above that we got random “Connection closed by peer” type errors in JMeter, at a very low probability, which increased if we increased the number of concurrent users more. Since at 200 users the system was always stable with 0.00% errors, we decided that the system supports a maximum of 200 simultaneous users.

Use case UC1: Register as user

In this use case the user creates an account for himself.

Aggregate Report

Name:

Aggregate Report

Comments:

Write results to file / Read from file

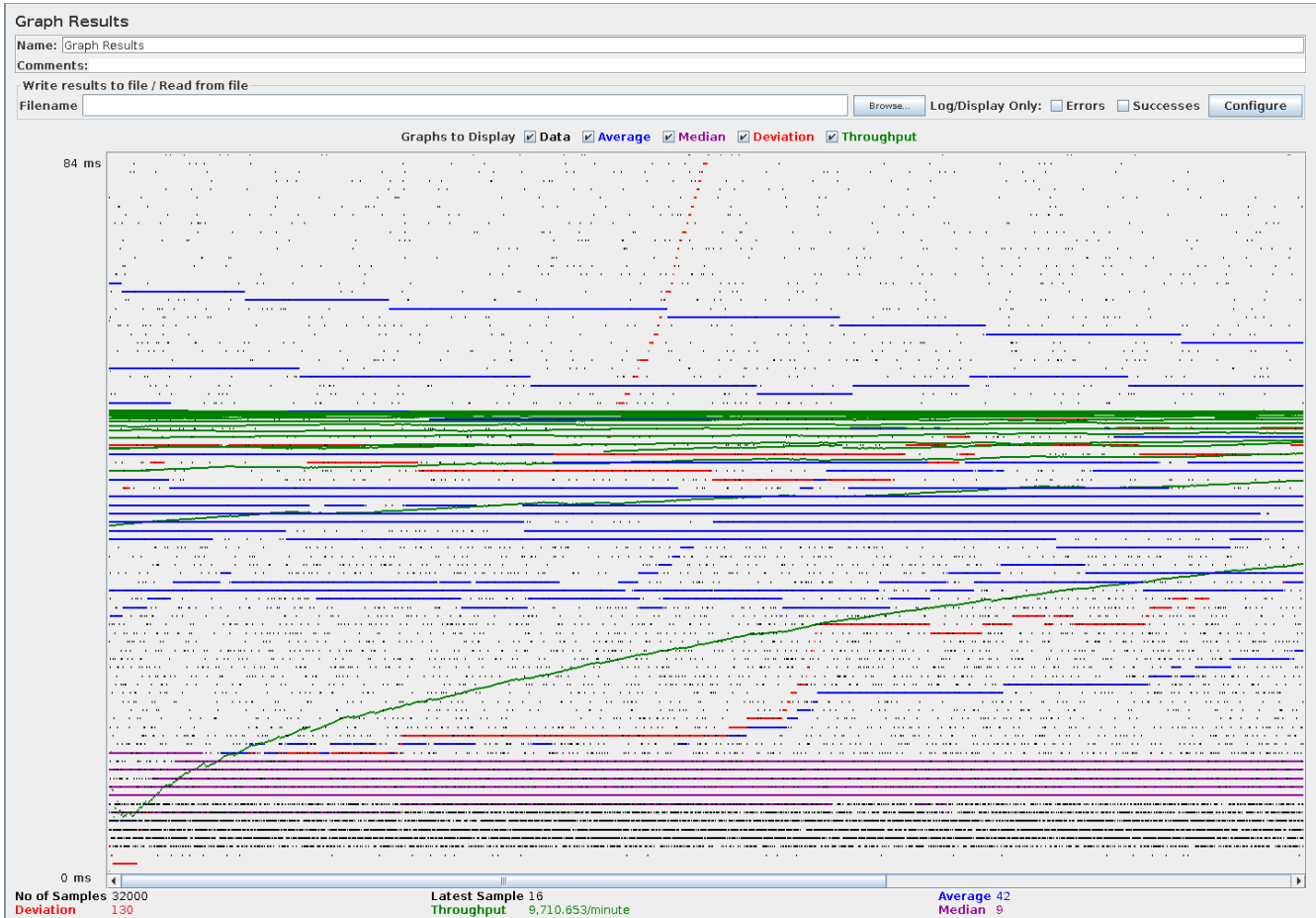
Filename

Browse...

Log/Display Only: ☐ Errors ☐ Successes

Configure

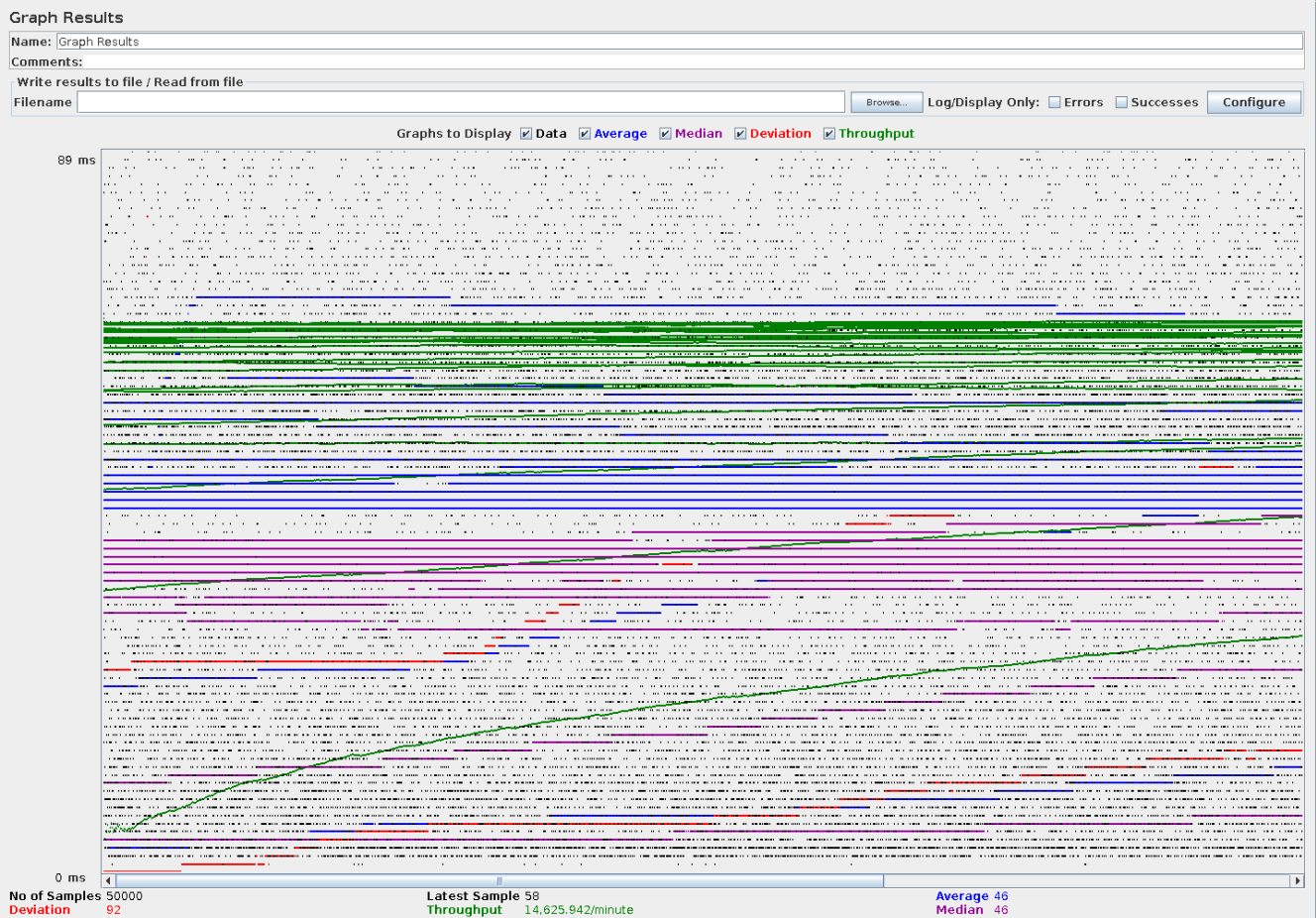
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	8000	25	5	16	2	1783	0.00%	41.1/sec	160.5
/users/new.do	8000	27	6	20	3	1701	0.00%	41.1/sec	219.9
/users/create.do	8000	83	47	155	19	2078	0.00%	41.1/sec	190.6
/welcome/index.do	8000	34	9	29	4	1463	0.00%	41.1/sec	179.5
TOTAL	32000	42	9	76	2	2078	0.00%	161.6/sec	739.3



Use case UC2: Comic navigation

In this use case the user lists the available comics, performs a search with a keyword, displays a comic, and changes his status in the comic, his rating of the comic, and marks and unmarks a volume as read.

Aggregate Report											
Name: Aggregate Report											
Comments:											
Write results to file / Read from file											
Filename											
Browse...						Log/Display Only:			<input type="checkbox"/> Errors	<input type="checkbox"/> Successes	Configure
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec		
/	4000	6	4	13	1	118	0.00%	21.0/sec	86.8		
/security/login.do	2000	6	3	10	1	126	0.00%	10.7/sec	44.7		
/j_spring_security_ch...	2000	11	7	20	4	214	0.00%	10.7/sec	48.8		
/comics/list.do	6000	44	25	107	4	334	0.00%	30.0/sec	297.7		
/comics/show.do	20000	45	51	73	6	275	0.00%	101.2/sec	1826.1		
/comics/unstar.do?l...	2000	54	50	74	12	4464	0.00%	10.7/sec	170.4		
/comics/star.do?id=...	2000	54	58	82	11	4224	0.00%	10.7/sec	170.3		
/comics/rate.do?id=...	2000	64	59	89	11	3824	0.00%	10.7/sec	170.3		
/comics/set_status...	2000	67	60	95	12	4647	0.00%	10.7/sec	170.3		
/comics/set_status...	2000	68	61	103	12	3806	0.00%	10.7/sec	170.1		
/comics/rate.do?id=...	2000	64	60	96	12	4313	0.00%	10.6/sec	169.9		
/volumes/read.do?id...	2000	73	63	119	14	2370	0.00%	10.6/sec	253.4		
/volumes/unread.do...	2000	80	63	113	13	4647	0.00%	10.6/sec	252.9		
TOTAL	50000	46	46	82	1	4647	0.00%	243.8/sec	3615.4		



Use case UC3: Comic management

In this use case a trusted user creates a comic, edits it, and deletes it.

Aggregate Report

Name: /Aggregate Report

Comments:

Write results to file / Read from file

Filename

Browse...

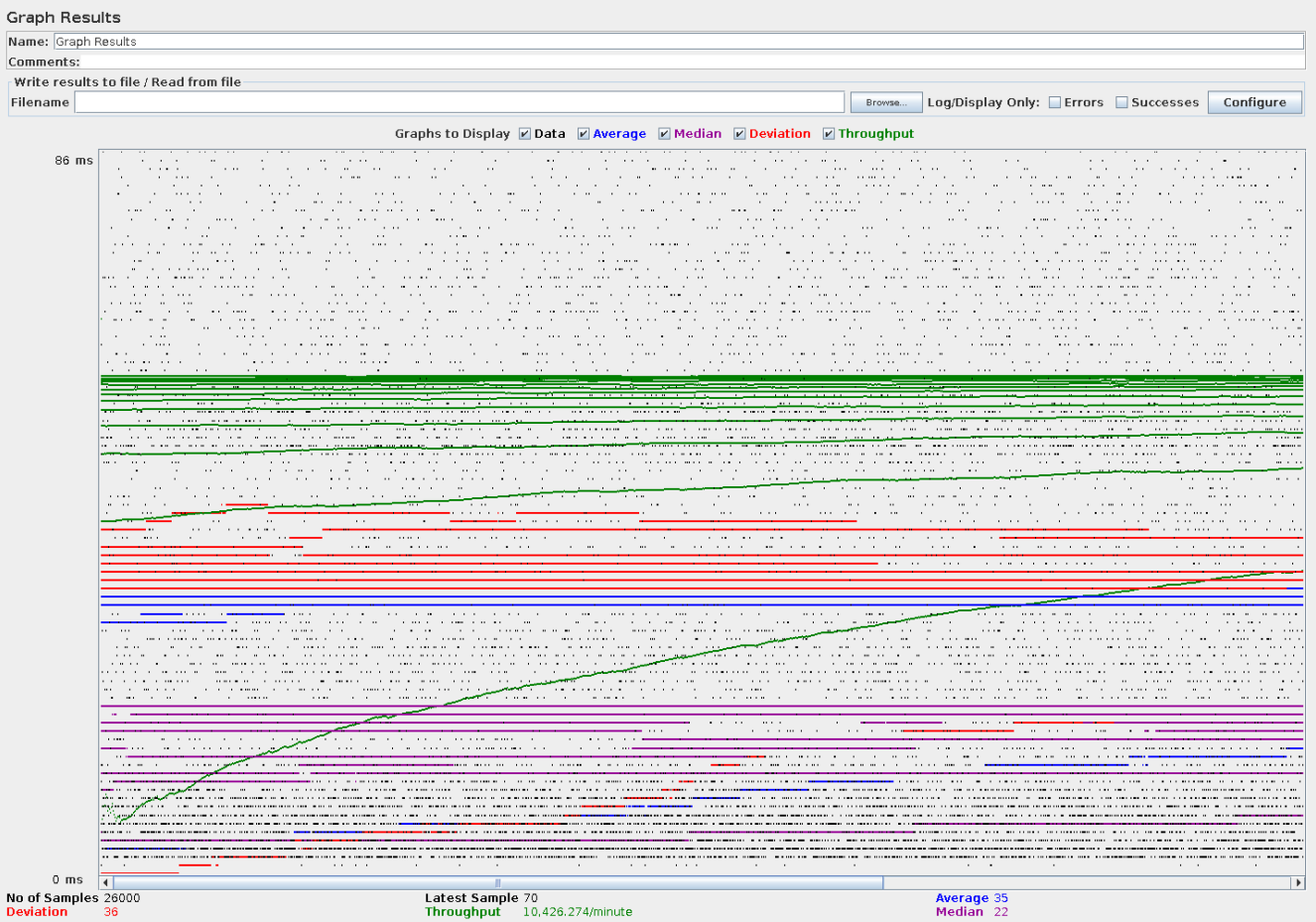
Log/Display Only:

☐ Errors

☐ Successes

Configure

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	4000	4	4	7	1	101	0.00%	28.5/sec	117.9
/security/login.do	2000	3	3	5	1	49	0.00%	14.6/sec	60.8
/j_spring_security_ch...	2000	8	7	11	4	80	0.00%	14.6/sec	66.5
/comics/list.do	4000	50	40	84	18	376	0.00%	27.5/sec	321.0
/comics/new.do	2000	8	7	13	4	84	0.00%	14.5/sec	99.6
/comics/create.do	2000	64	67	102	20	291	0.00%	14.5/sec	197.8
/comics/show.do	4000	40	51	60	6	143	0.00%	28.4/sec	379.6
/comics/edit.do	2000	16	14	25	7	124	0.00%	14.5/sec	107.9
/comics/update.do	2000	70	72	108	24	211	0.00%	14.5/sec	198.0
/comics/delete.do	2000	93	89	143	34	357	0.00%	14.5/sec	173.1
TOTAL	26000	35	22	85	1	376	0.00%	173.8/sec	1610.7



In this use case a trusted user lists and displays publishers, and creates, edits and finally deletes a new publisher.

Aggregate Report

Name: Aggregate Report

Comments:

Write results to file / Read from file

Filename

Browse...

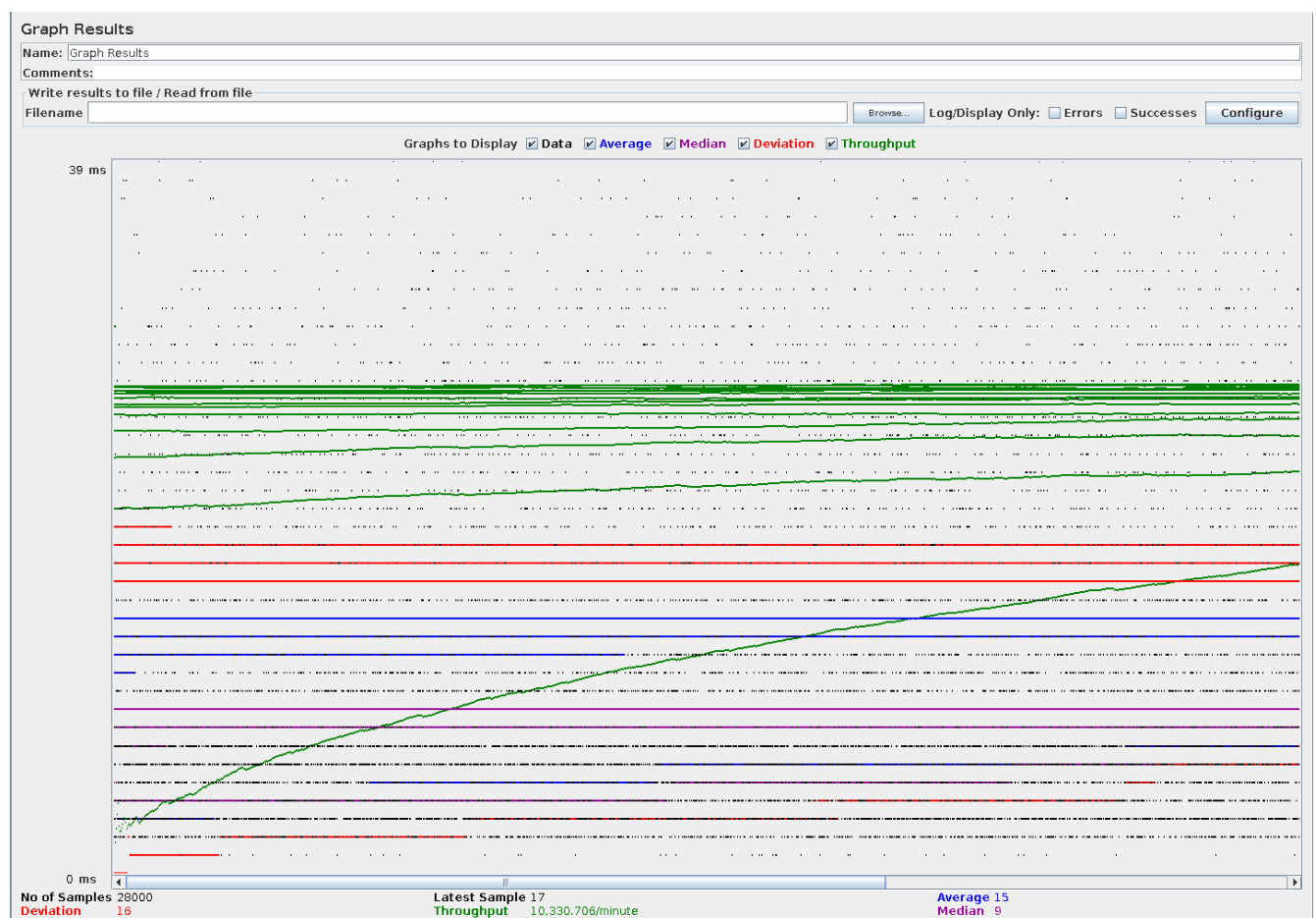
Log/Display Only:

Errors

Successes

Configure

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	4000	3	3	5	1	42	0.00%	26.3/sec	108.8
/security/login.do	2000	3	3	4	1	19	0.00%	13.5/sec	56.2
/l_spring_security.ch...	2000	7	7	10	4	43	0.00%	13.4/sec	61.4
/publishers/new.do	2000	7	10	4	4	181	0.00%	13.5/sec	78.4
/publishers/create.do	2000	17	16	23	10	273	0.00%	13.4/sec	84.3
/publishers/show.do	8000	15	11	30	5	296	0.00%	51.1/sec	440.1
/publishers/edit.do	2000	8	8	12	4	154	0.00%	13.4/sec	79.1
/publishers/update.do	2000	18	16	24	10	266	0.00%	13.4/sec	84.6
/publishers/delete.do	2000	41	56	63	10	252	0.00%	13.4/sec	132.8
/publishers/list.do	2000	36	49	54	4	83	0.00%	13.4/sec	129.3
TOTAL	28000	15	9	40	1	296	0.00%	172.2/sec	1171.6



Use case UC5: Author management

In this use case a trusted user lists and displays authors, and creates, edits and finally deletes a new author.

Aggregate Report

Name: Aggregate Report

Comments:

Write results to file / Read from file

Filename

Browse...

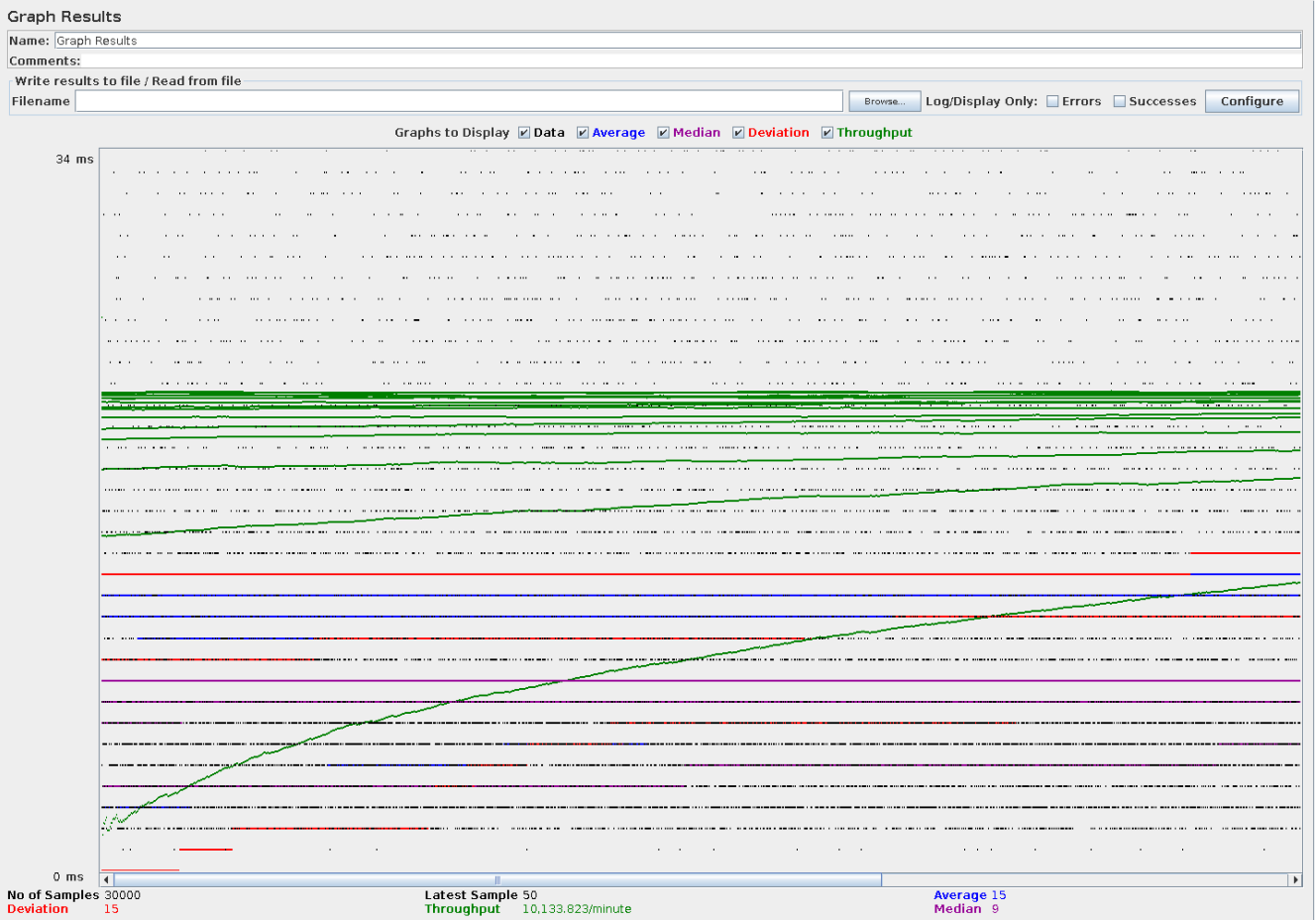
Log/Display Only:

Errors

Successes

Configure

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	4000	4	4	6	1	56	0.00%	24.2/sec	99.9
/security/login.do	2000	3	3	5	1	31	0.00%	12.3/sec	51.4
/j_spring_security.ch...	2000	8	7	11	4	53	0.00%	12.3/sec	56.2
/authors/list.do	4000	21	8	50	3	306	0.00%	23.1/sec	213.8
/authors/show.do	8000	17	11	35	5	147	0.00%	47.1/sec	467.1
/authors/new.do	2000	7	6	11	3	67	0.00%	12.3/sec	73.7
/authors/create.do	2000	19	17	28	10	86	0.00%	12.3/sec	76.7
/authors/edit.do	2000	8	8	12	4	61	0.00%	12.3/sec	74.3
/authors/update.do	2000	19	17	26	11	93	0.00%	12.3/sec	77.2
/authors/delete.do	2000	39	54	62	10	295	0.00%	12.3/sec	117.7
TOTAL	30000	15	9	40	1	306	0.00%	168.9/sec	1230.1



Use case UC6: Comic character management

In this use case a trusted user lists and displays comic characters, and creates, edits and finally deletes a new comic character.

Aggregate Report

Name: Aggregate Report

Comments:

Write results to file / Read from file

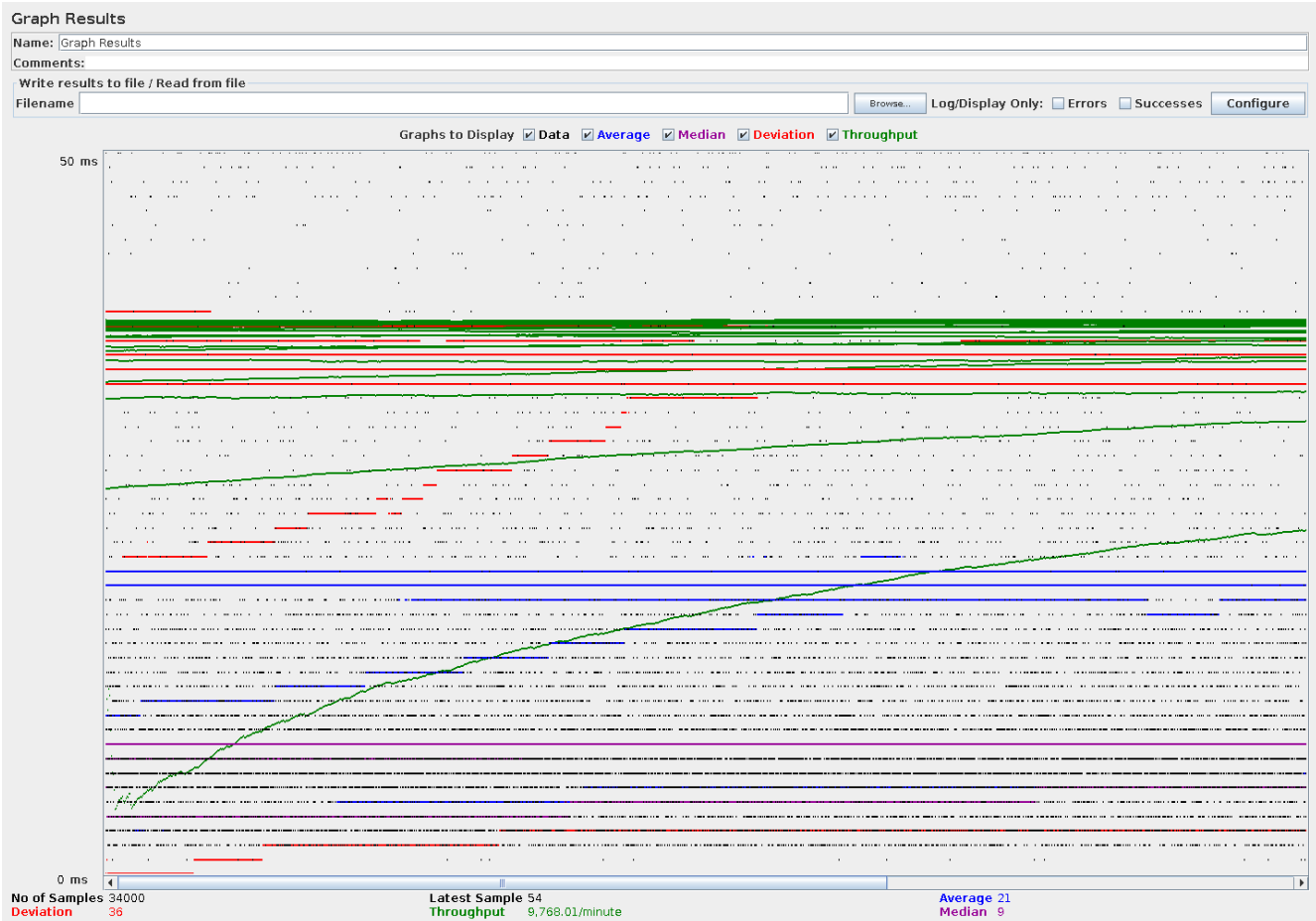
Filename

Browse...

Log/Display Only: ☐ Errors ☐ Successes

Configure

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	4000	4	4	6	1	84	0.00%	20.7/sec	85.5
/security/login.do	2000	3	3	5	1	56	0.00%	10.5/sec	43.9
/j_spring_security_check	2000	8	7	11	4	60	0.00%	10.5/sec	48.0
/comic_characters/list.do	8000	15	8	51	4	99	0.00%	39.2/sec	369.5
/comic_characters/show.do	8000	11	10	17	5	85	0.00%	39.8/sec	296.8
/comic_characters/new.do	2000	10	8	15	4	112	0.00%	10.5/sec	130.8
/comic_characters/create.do	2000	23	20	35	11	158	0.00%	10.5/sec	68.2
/comic_characters/edit.do	2000	136	108	240	64	463	0.00%	10.5/sec	136.8
/comic_characters/update....	2000	23	20	36	12	147	0.00%	10.5/sec	68.5
/comic_characters/delete.do	2000	45	57	67	11	127	0.00%	10.5/sec	101.7
TOTAL	34000	21	9	56	1	463	0.00%	162.8/sec	1272.5



Use case UC7: Comic volume management

In this use case a trusted user displays a comic, which lists the volumes of a comic, and then creates, displays, edits and finally deletes a new comic volume.

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
/	4000	4	4	7	1	65	0.00%	20.3/sec	84.1
/security/login.do	2000	3	3	5	1	61	0.00%	10.5/sec	43.7
/spring_security_ch...	2000	8	8	13	4	54	0.00%	10.5/sec	47.9
/comics/create.do	200	93	90	131	33	231	0.00%	18.9/sec	254.0
/comics/list.do	2000	41	33	64	24	278	0.00%	10.5/sec	122.2
/comics/show.do	4000	27	15	56	6	255	0.00%	20.1/sec	265.1
/volumes/new.do	2000	11	9	18	5	107	0.00%	10.5/sec	71.2
/volumes/create.do	2000	44	38	69	23	279	0.00%	10.5/sec	68.6
/volumes/show.do	4000	11	9	18	5	111	0.00%	20.6/sec	129.7
/volumes/edit.do	2000	14	12	23	7	236	0.00%	10.5/sec	71.5
/volumes/update.do	2000	23	20	35	12	105	0.00%	10.5/sec	68.9
/volumes/delete.do	2000	67	73	98	23	226	0.00%	10.4/sec	140.8
TOTAL	28200	22	12	55	1	279	0.00%	135.7/sec	1051.9

Graph Results

Name: Graph Results

Comments:

Write results to file / Read from file

Filename

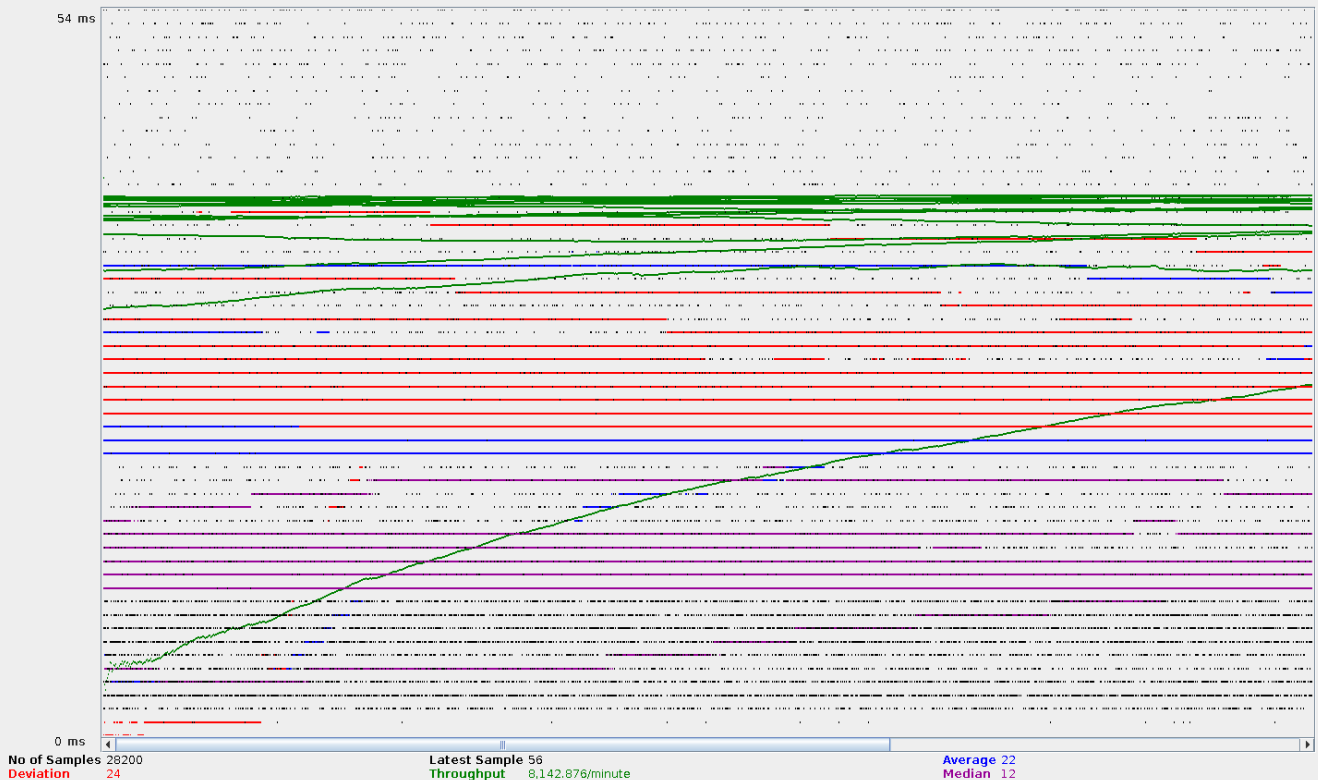
Browse...

Log/Display Only: ☐ Errors ☐ Successes

Configure

Graphs to Display ☒ Data ☒ Average ☒ Median ☒ Deviation ☒ Throughput

54 ms



Use case UC8: Friending and unfriending users

In this use case an user repeatedly marks and unmarks a few users as his friends.

For this test, each thread in the JMeter test has it's own user account (created in the test itself) to prevent optimistic lock errors and prevent contention due to simultaneous writing to the same User.

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
/users/create.do	200	29	26	45	17	100	0.00%	19.5/sec	92.9
/	2000	10	5	24	2	225	0.00%	8.0/sec	35.0
/actors/list.do	30000	71	65	117	10	1265	0.00%	109.5/sec	1250.2
/users/friend.do?id=...	4000	83	74	130	13	743	0.00%	15.0/sec	2.6
/users/friend.do?id=...	4000	84	74	133	14	1438	0.00%	15.2/sec	2.7
/users/friend.do?id=...	4000	83	75	131	15	933	0.00%	15.4/sec	2.7
/users/unfriend.do?l...	4000	79	70	126	14	1138	0.00%	15.0/sec	2.6
/users/unfriend.do?l...	4000	88	78	137	14	1134	0.00%	15.3/sec	2.7
/users/unfriend.do?l...	4000	126	112	211	15	1076	0.00%	15.3/sec	90.3
/users/friend.do?id=...	2000	86	79	136	15	678	0.00%	8.0/sec	1.4
/users/unfriend.do?l...	2000	84	76	130	15	610	0.00%	7.9/sec	1.4
TOTAL	60200	77	68	131	2	1438	0.00%	217.5/sec	1372.7

Graph Results

Name: Graph Results

Comments:

Write results to file / Read from file

Filename

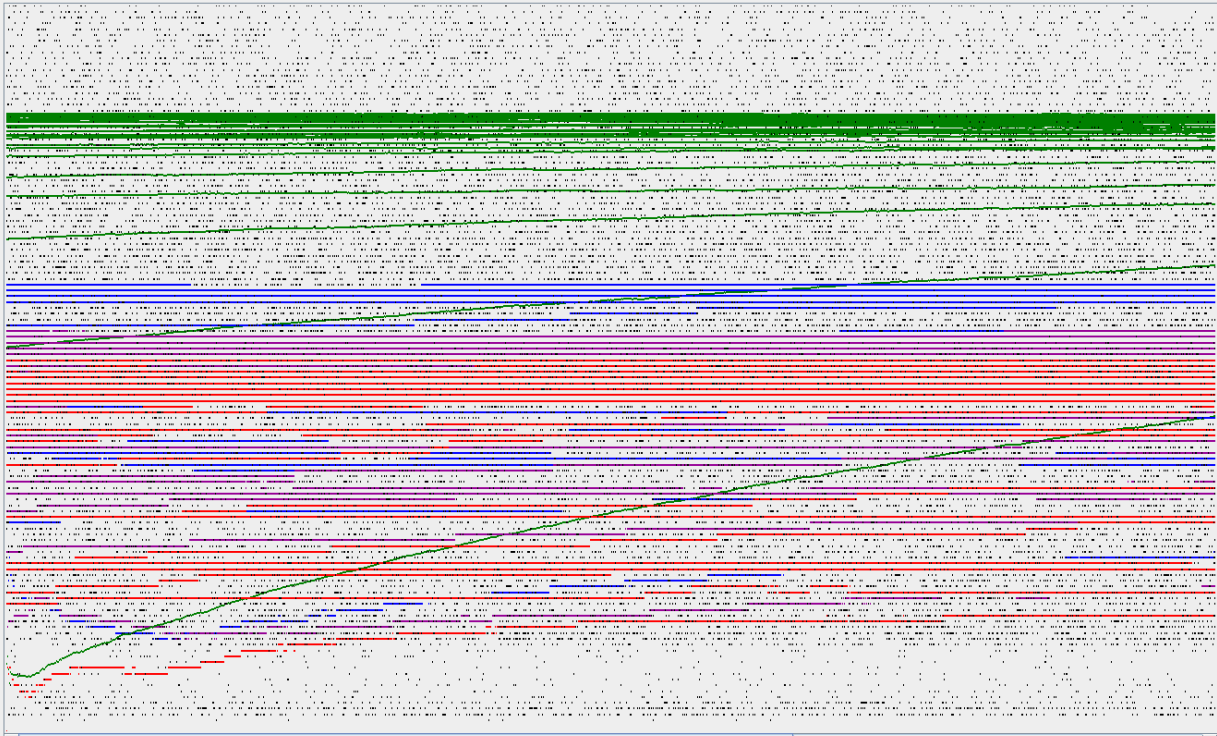
Browse...

Log/Display Only: ☐ Errors ☐ Successes

Configure

Graphs to Display ☒ Data ☒ Average ☒ Median ☒ Deviation ☒ Throughput

125 ms



No of Samples 60200

Deviation 59

Latest Sample 70

Throughput 13,050,972/minute

Average 77

Median 68

In this use case an administrator grants and revokes trusted status onto an user.

Graph Results

Name: Graph Results

Comments:

Write results to file / Read from file

Filename:

Browse...

Log/Display Only: ☐ Errors ☐ Successes ☐ Configure

Graphs to Display ☒ Data ☒ Average ☒ Median ☒ Deviation ☒ Throughput

56 ms

0 ms

No of Samples 18000

Deviation 25

Latest Sample 68

Throughput 10,573.412/minute

Average 26

Median 17

Use case UC10: Blocking and unblocking an user.

In this use case an administrator blocks and unblocks an user from accessing the system.



Use case UC11: Sales

In this use case an user lists, creates, displays, updates and cancels a sale, and another user marks himself as interested in another sale.

Aggregate Report

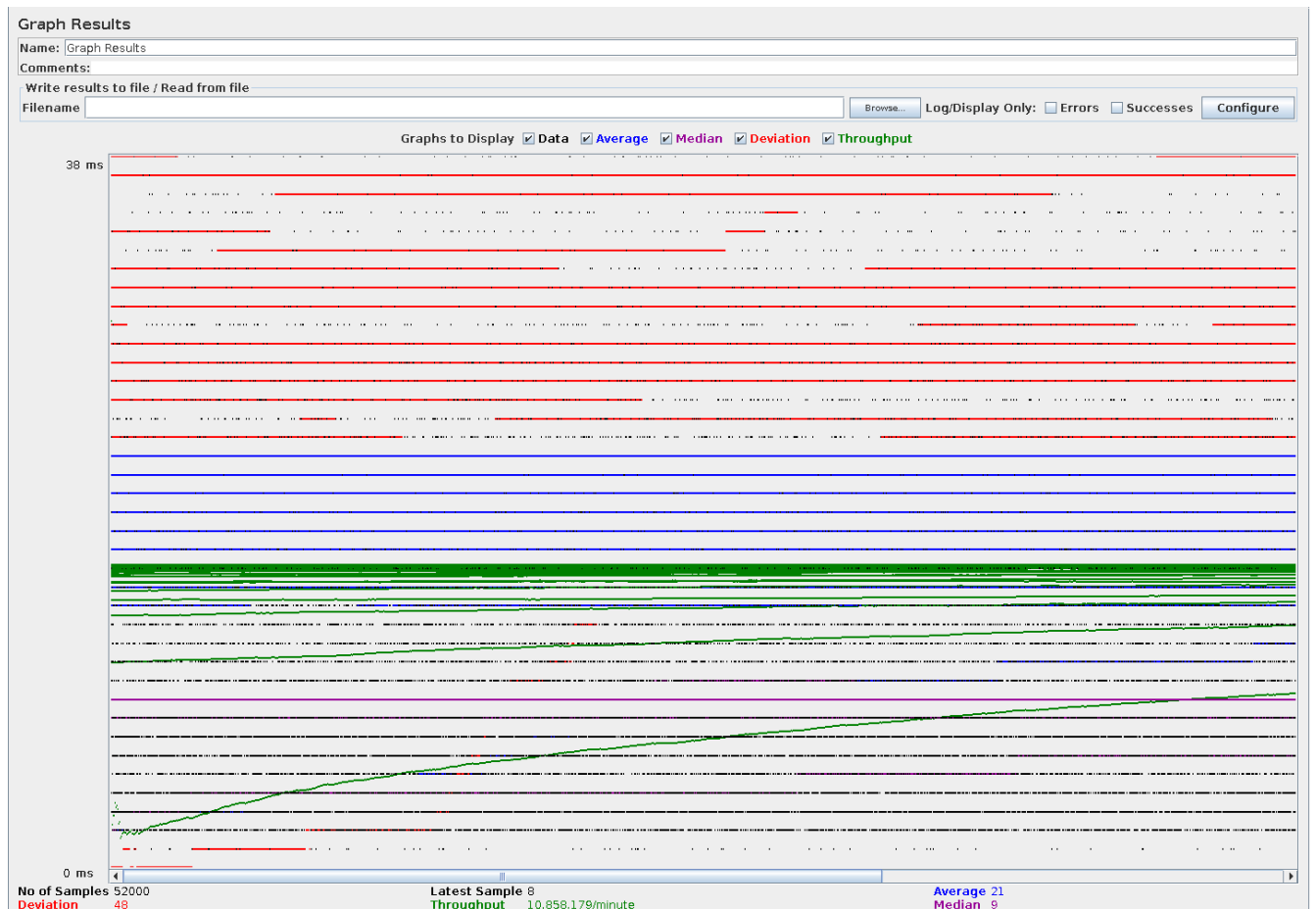
Name:

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
/welcome/index.do	4000	4	3	6	1	773	0.00%	14.4/sec	55.6
/security/login.do	4000	5	3	7	1	544	0.00%	14.4/sec	60.1
/j_spring_security_ch...	4000	12	7	19	4	849	0.00%	14.4/sec	65.7
/	4000	7	4	11	2	506	0.00%	14.4/sec	62.6
/sales/list.do	8000	53	10	162	4	956	0.00%	28.7/sec	255.4
/sales/new.do	2000	23	12	48	5	560	0.00%	7.7/sec	51.8
/sales/create.do	2000	41	22	87	10	894	0.00%	7.7/sec	51.1
/sales/show.do	12000	14	9	4	4	621	0.00%	43.1/sec	272.2
/sales/edit.do	2000	25	9	49	7	567	0.00%	7.6/sec	52.3
/sales/update.do	2000	35	14	54	10	594	0.00%	7.6/sec	51.0
/sales/cancel.do?id=...	2000	24	17	40	9	611	0.00%	7.6/sec	46.7
/j_spring_security.lo...	2000	5	4	7	2	190	0.00%	7.6/sec	31.0
/sales/set_intereste...	2000	26	23	36	12	271	0.00%	7.6/sec	51.1
/sales/set_intereste...	2000	30	23	44	11	461	0.00%	7.6/sec	51.1
TOTAL	52000	21	9	38	1	956	0.00%	181.0/sec	1098.9



Use case UC12: Direct messages

In this use case an user lists his messages, displays one, sends one, deletes one and moves one from one folder to another.

Aggregate Report

Name: Aggregate Report

Comments:

Write results to file / Read from file

Filename

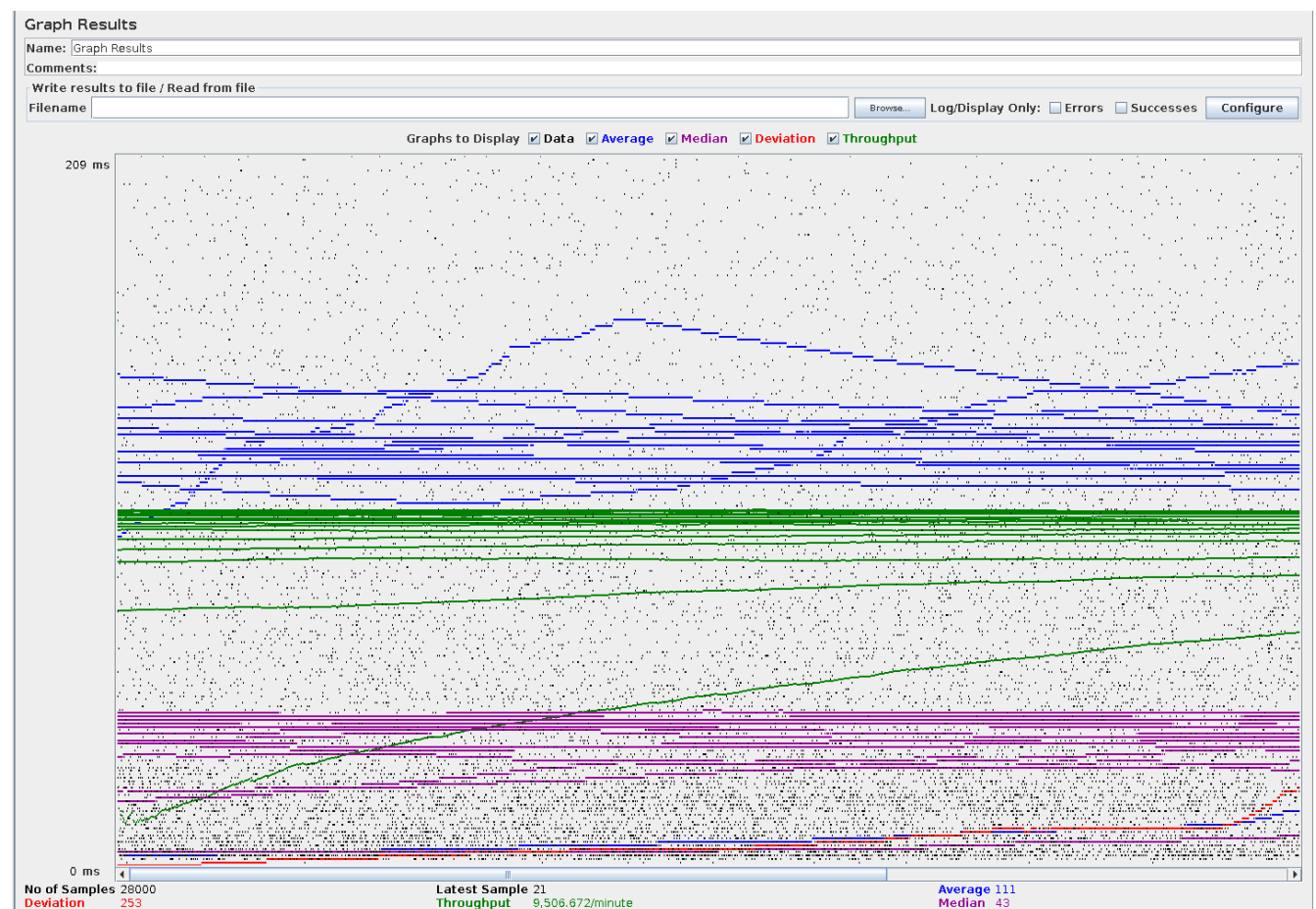
Browse...

Log/Display Only:

☐ Errors
 ☐ Successes

Configure

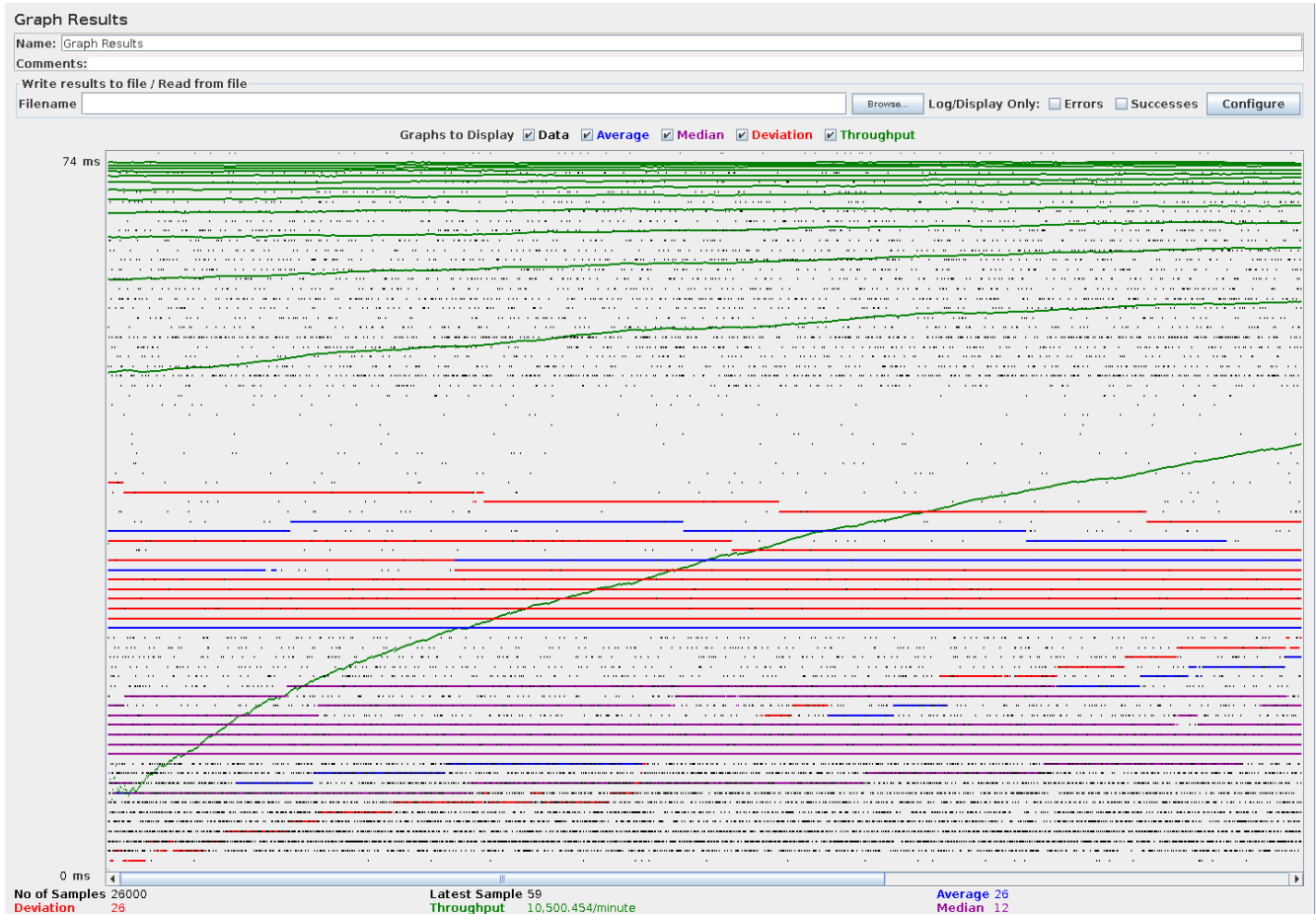
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/welcome/index.do	2000	45	5	39	1	3329	0.00%	12.3/sec	48.2
/security/login.do	2000	34	5	33	1	2918	0.00%	12.3/sec	51.5
/j_spring_security_check	2000	54	12	75	4	2645	0.00%	12.3/sec	56.4
/	2000	29	7	35	2	1879	0.00%	12.3/sec	53.7
/direct_messages/index.do	2000	40	20	63	6	2678	0.00%	12.3/sec	183.0
/direct_messages/show.do	8000	108	65	157	14	3561	0.00%	46.9/sec	275.6
/direct_messages/reply.do	2000	113	60	162	15	4729	0.00%	12.3/sec	69.4
/direct_messages/send.do	2000	222	130	444	25	5886	0.00%	12.3/sec	75.5
/direct_messages/delete.do	2000	252	158	517	20	6263	0.00%	12.3/sec	74.5
/direct_messages/move.do	2000	131	91	183	17	2965	0.00%	12.3/sec	65.9
/direct_messages/move_to...	2000	196	129	327	26	3737	0.00%	12.3/sec	75.2
TOTAL	28000	111	43	210	1	6263	0.00%	158.4/sec	959.0



Use case UC13: Direct message folders

In this use case an user creates, edits, and deletes a message folder.

Aggregate Report											
Name: <input type="text" value="Aggregate Report"/>											
Comments: <input type="text"/>											
Write results to file / Read from file											
Filename: <input type="text"/>	<input type="button" value="Browse..."/>			Log/Display Only: <input type="checkbox"/> Errors <input type="checkbox"/> Successes			<input type="button" value="Configure"/>				
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec		
/	4000	4	4	8	1	76	0.00%	28.9/sec	118.9		
/security/login.do	2000	4	3	7	1	51	0.00%	14.7/sec	61.4		
/j_spring_security_ch...	2000	9	7	14	3	204	0.00%	14.7/sec	67.1		
/direct_messages/in/...	8000	36	49	60	6	219	0.00%	55.5/sec	956.8		
/message_folders/n/...	2000	7	6	10	3	186	0.00%	14.7/sec	79.1		
/message_folders/cr/...	2000	46	58	70	12	267	0.00%	14.7/sec	131.8		
/message_folders/e/...	2000	12	10	17	6	157	0.00%	14.7/sec	79.2		
/message_folders/u/...	2000	55	62	76	14	383	0.00%	14.7/sec	257.4		
/message_folders/d/...	2000	53	62	75	15	295	0.00%	14.7/sec	257.1		
TOTAL	26000	26	12	64	1	383	0.00%	175.0/sec	1894.7		



Use case UC14: Comments

In this use case the user writes a comment.

Aggregate Report											
Name: Aggregate Report											
Comments:											
Write results to file / Read from file											
Filename	<input type="text"/>						<input type="button" value="Browse..."/>	Log/Display Only: <input type="checkbox"/> Errors <input type="checkbox"/> Successes		<input type="button" value="Configure"/>	
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec		
/	4000	3	3	5	1	30	0.00%	41.3/sec	170.7		
/security/login.do	2000	3	3	4	1	29	0.00%	21.3/sec	89.0		
/j_spring_security.ch...	2000	7	7	9	3	55	0.00%	21.3/sec	97.2		
/comics/list.do	2000	10	10	15	6	34	0.00%	21.3/sec	240.1		
/comics/show.do	4000	32	22	59	8	154	0.00%	41.8/sec	979.5		
/comments/create.d...	2000	50	59	69	13	221	0.00%	21.3/sec	504.7		
TOTAL	16000	17	8	58	1	221	0.00%	157.4/sec	1946.9		

