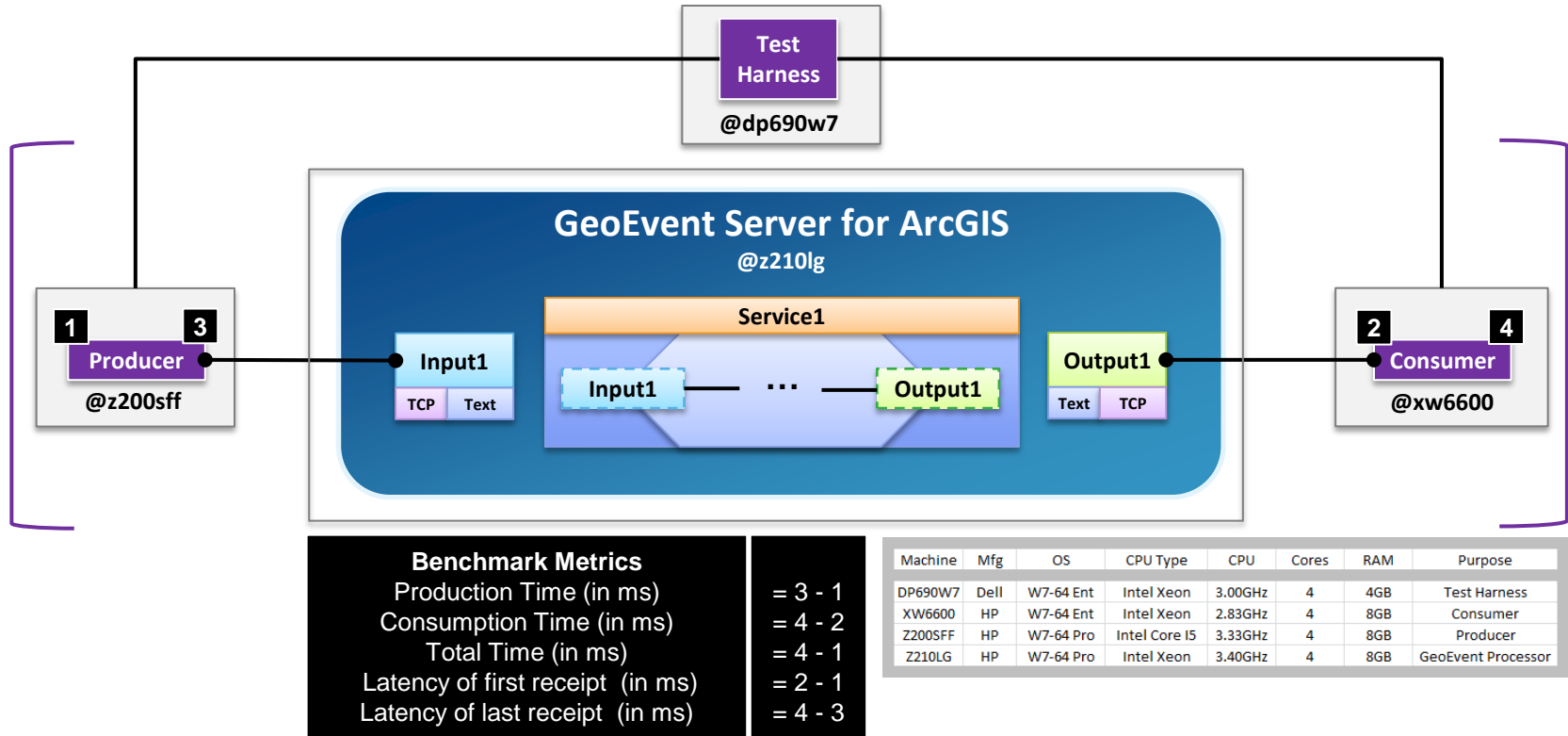


ArcGIS 10.2 GeoEvent Processor for Server Benchmarks

Benchmarking Approach

Benchmarking Approach



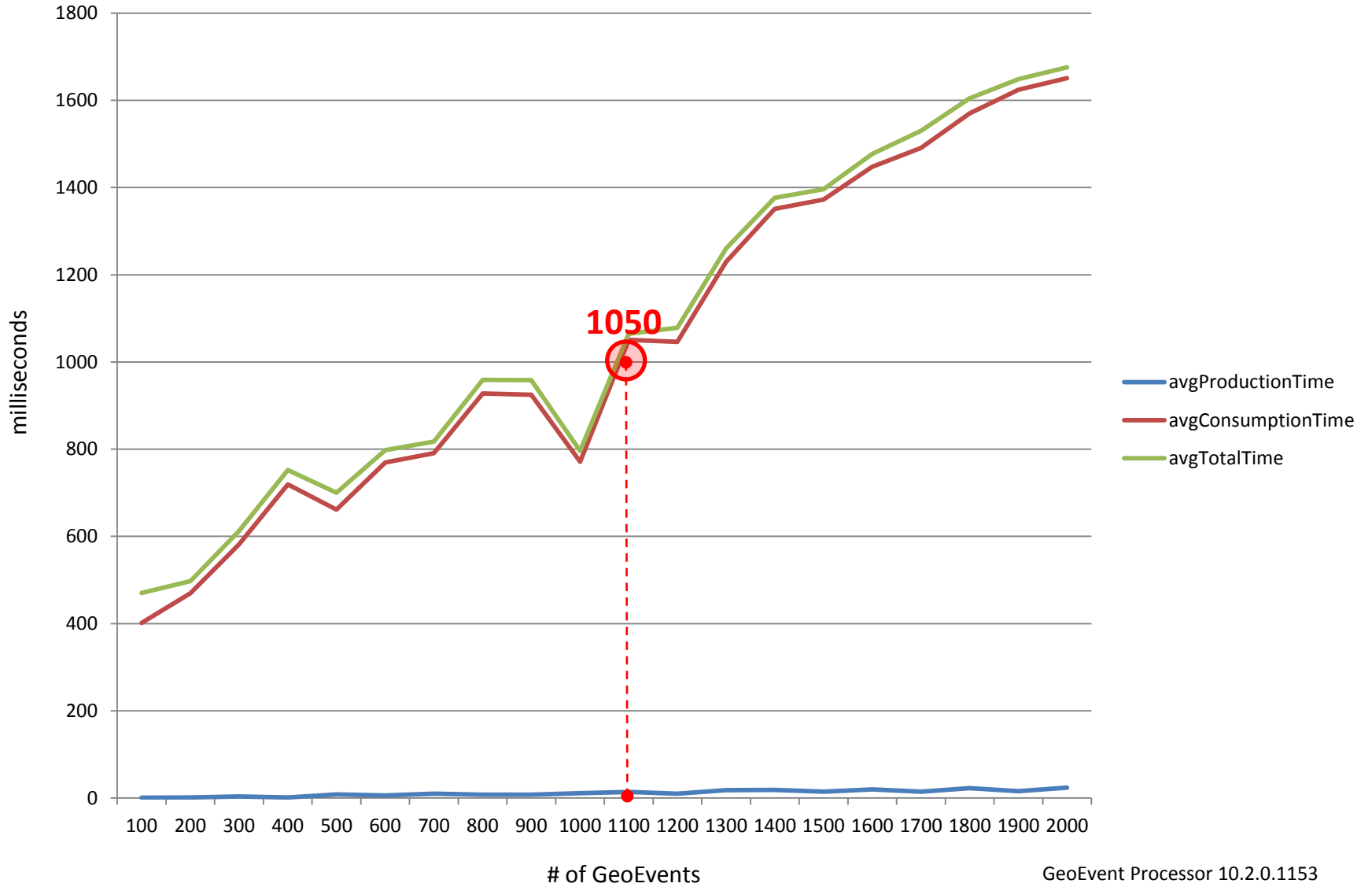
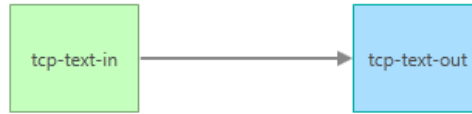
• For each Benchmark

- Produce Volumes ranging from 100 to 1,000, in steps of 100
- Run 3 Iterations at each Volume e.g. 3 runs @100, 3 runs @200, ..., 3 runs @1000
- Record a summary line of metrics at each volume:

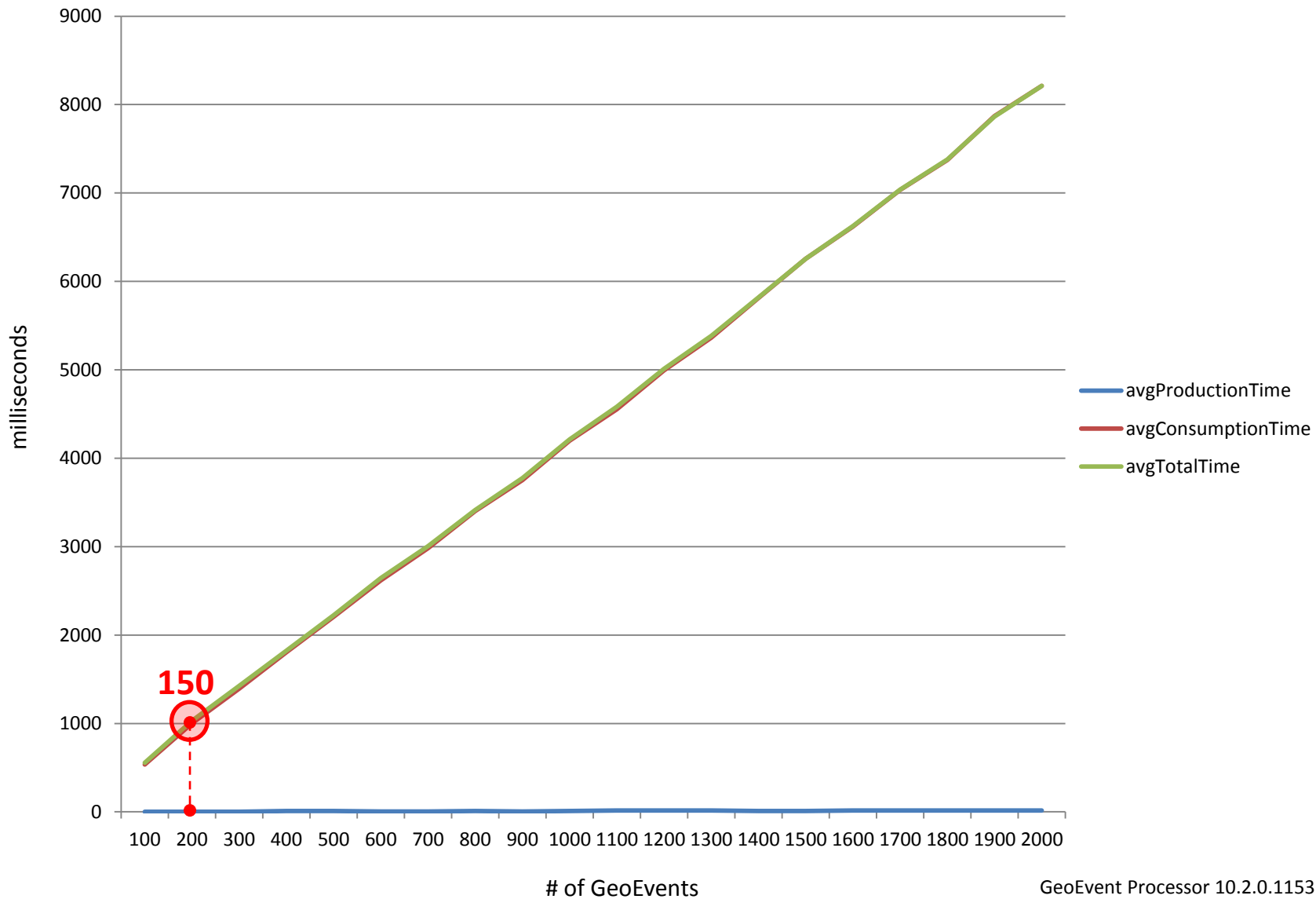
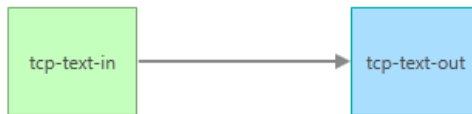
totalEvents	minProductionTime	minConsumptionTime	minTotalTime	minFirstReceivedLatency	minLastReceivedLatency
successes	maxProductionTime	maxConsumptionTime	maxTotalTime	maxFirstReceivedLatency	maxLastReceivedLatency
failures	avgProductionTime	avgConsumptionTime	avgTotalTime	avgFirstReceivedLatency	avgLastReceivedLatency
producerConnections	medProductionTime	medConsumptionTime	medTotalTime	medFirstReceivedLatency	medLastReceivedLatency
consumerConnections	devProductionTime	devConsumptionTime	devTotalTime	devFirstReceivedLatency	devLastReceivedLatency

Attribute Filter Benchmarks

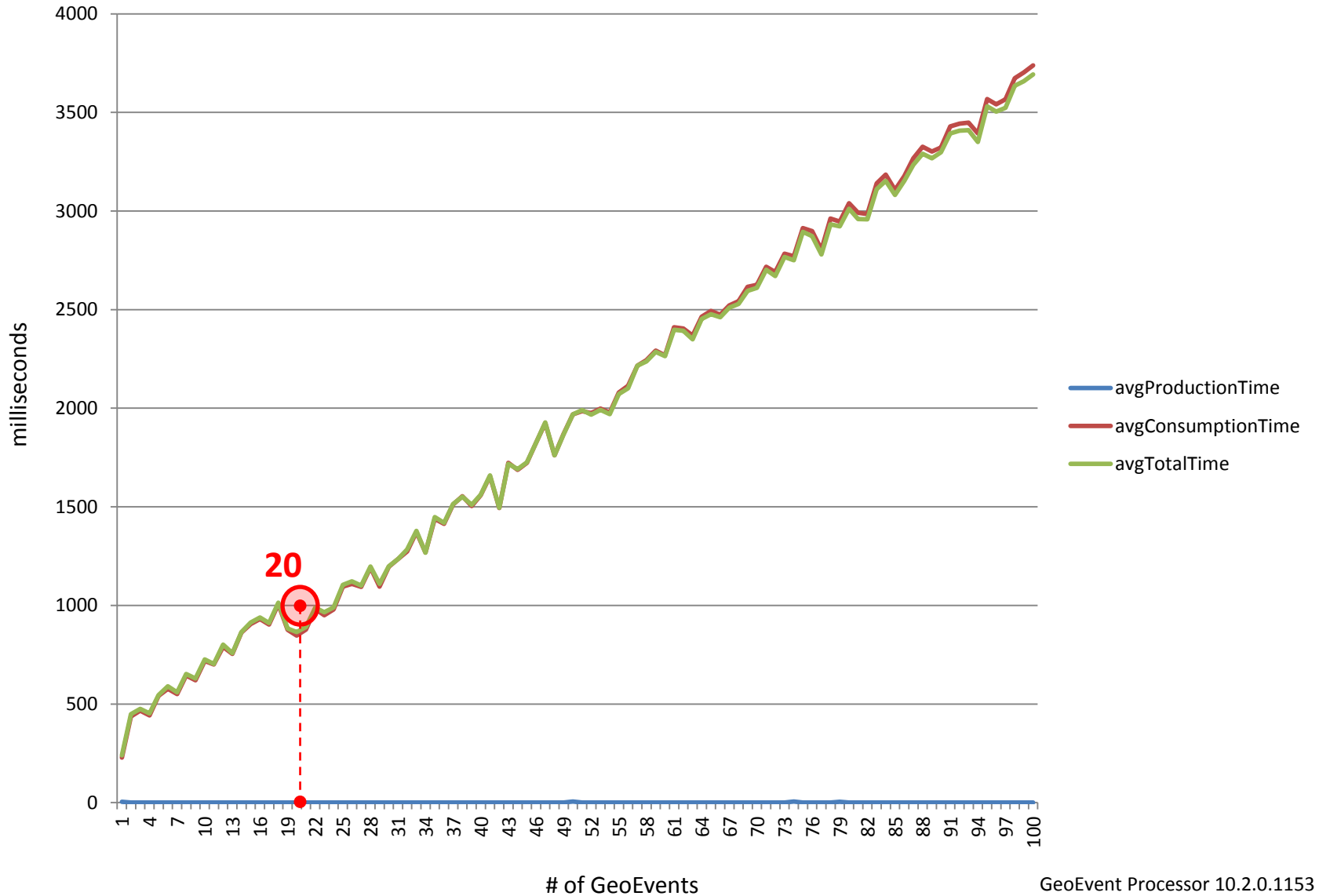
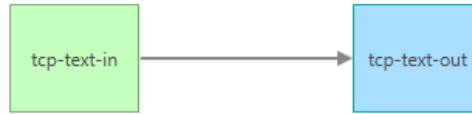
Pass Through Benchmark



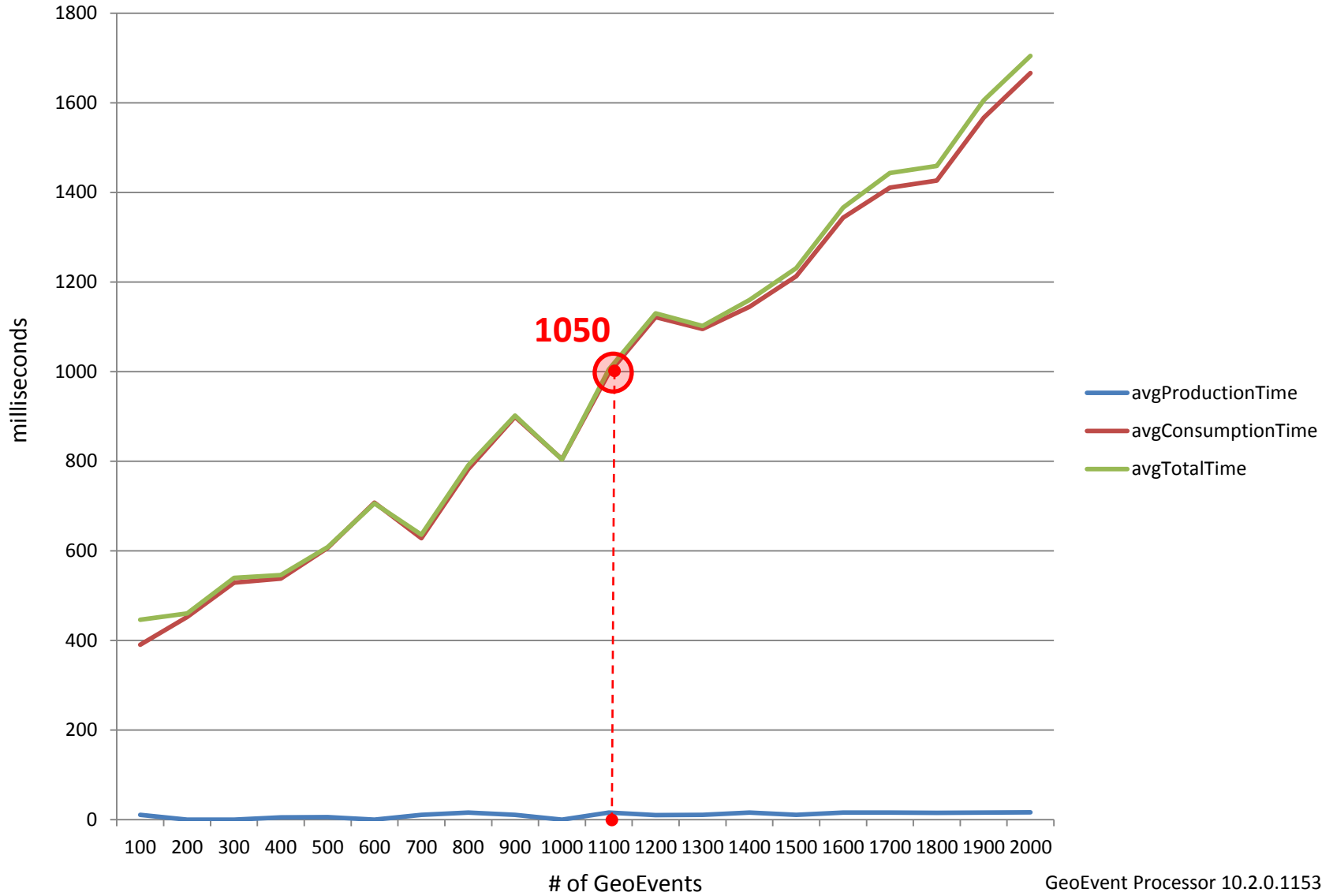
Pass Through Benchmark (10 services)



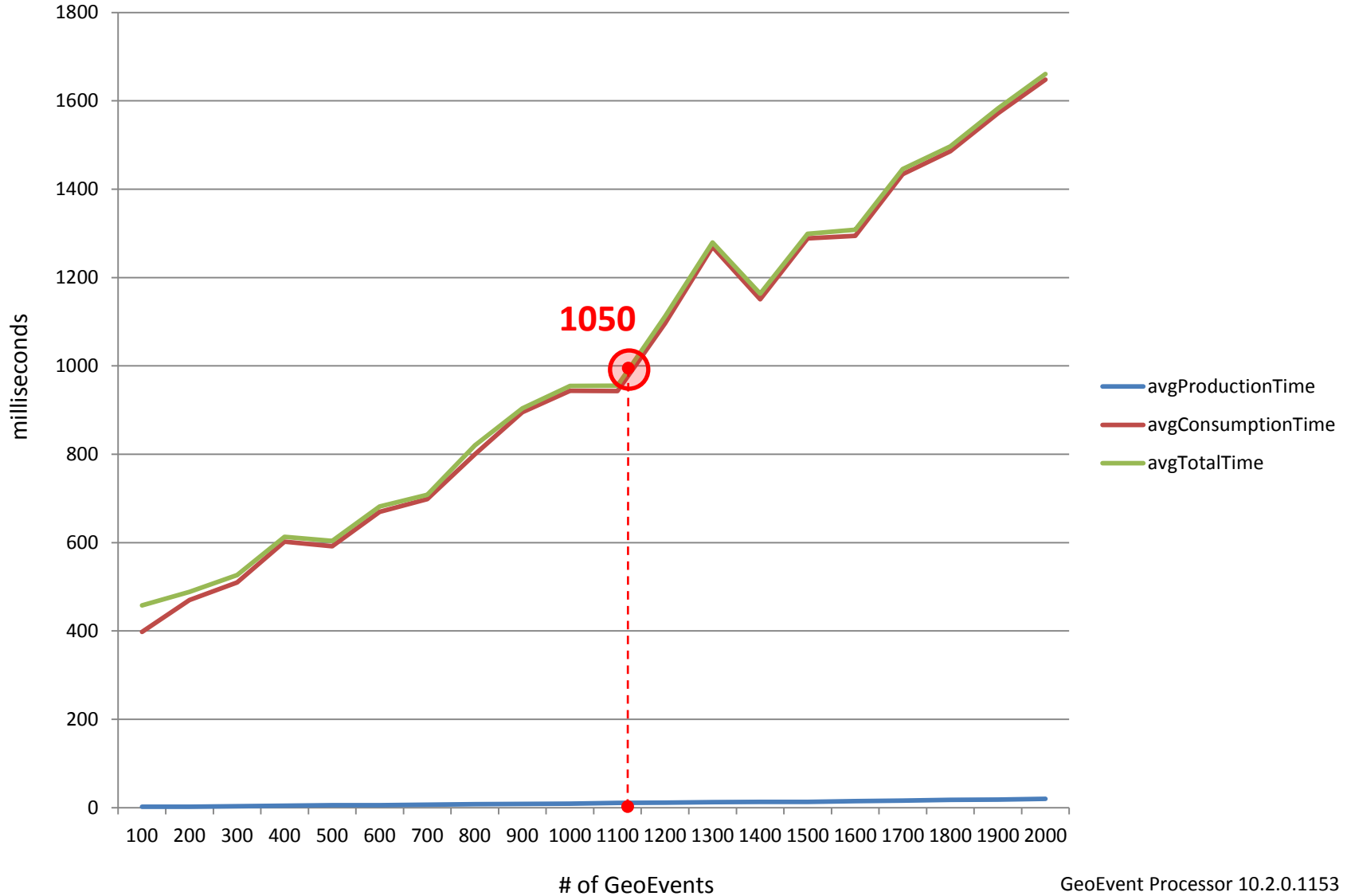
Pass Through Benchmark (100 services)



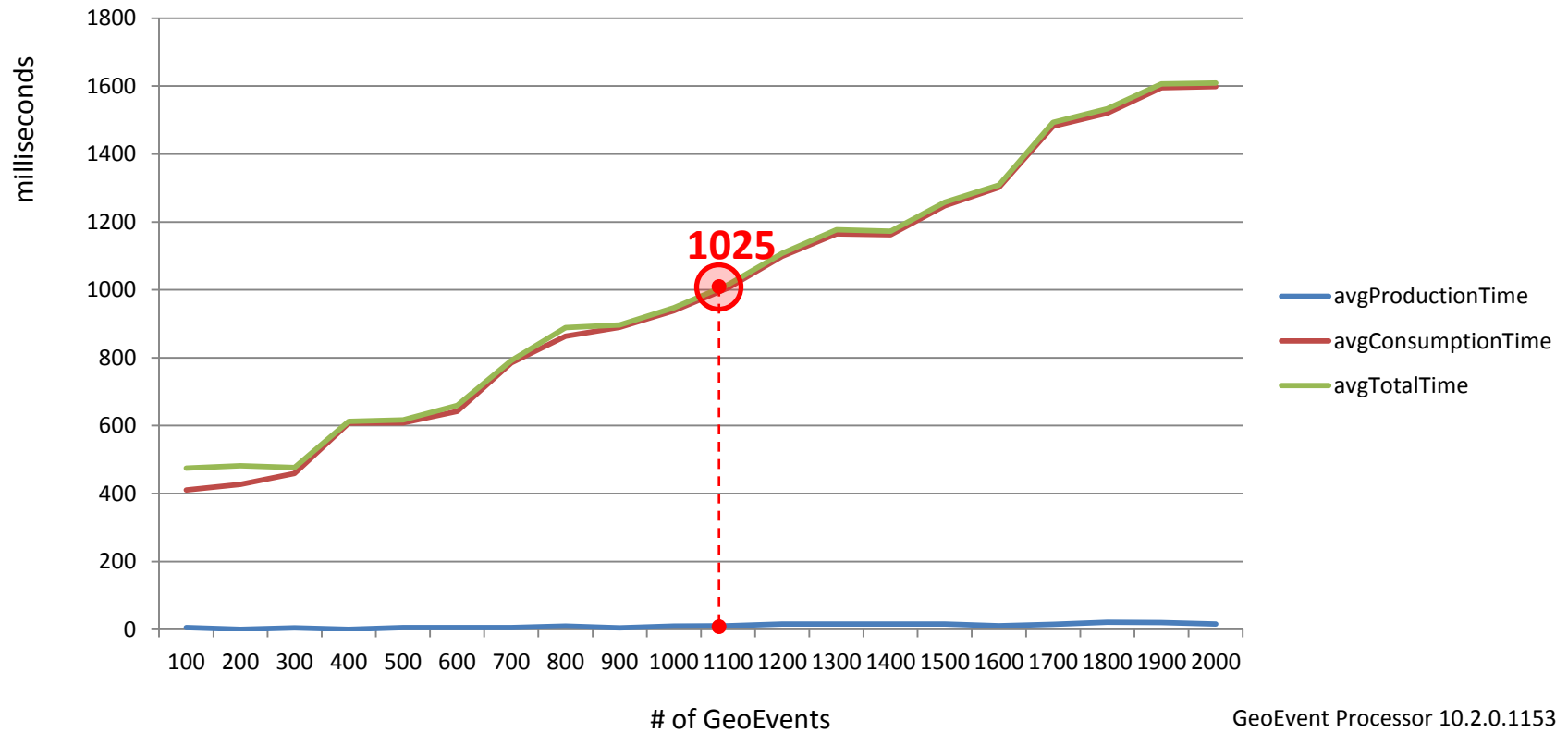
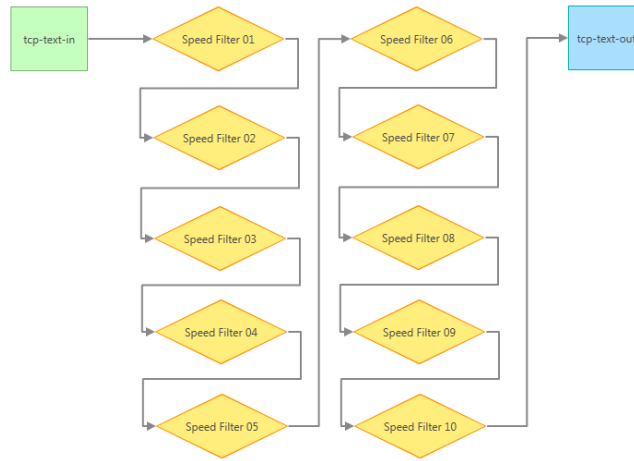
'No Operation' Processor Benchmark



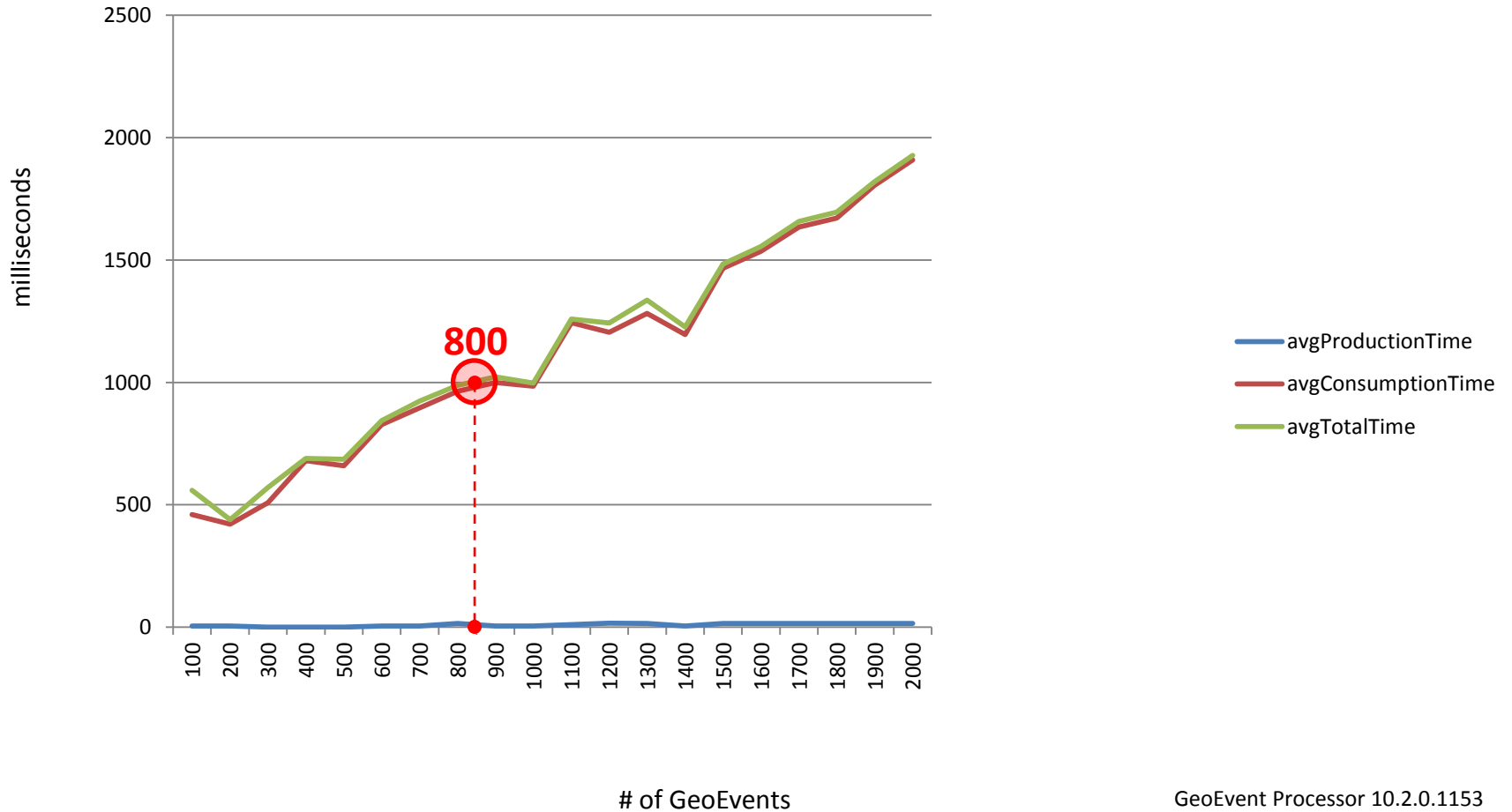
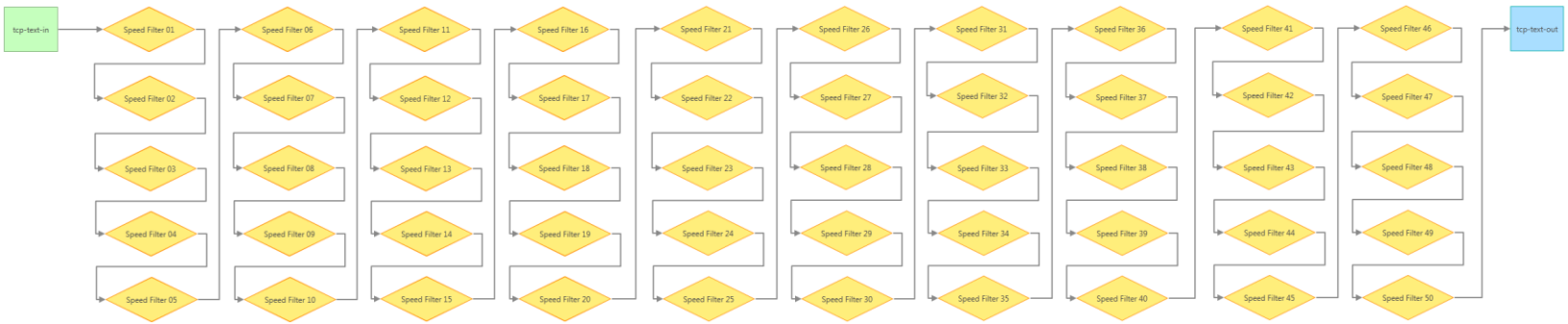
1 Attribute Filter Benchmark



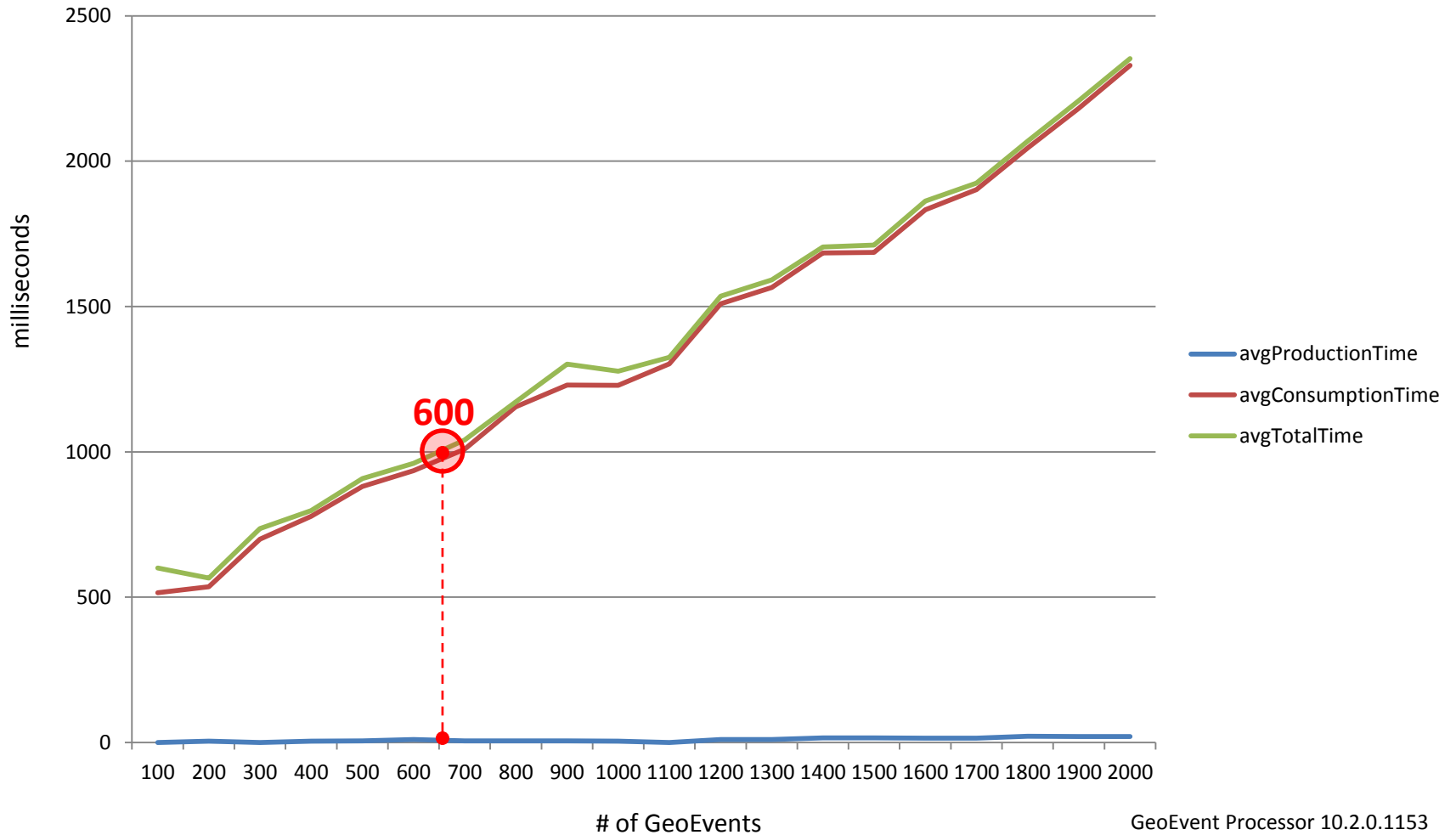
10 Attribute Filters Benchmark



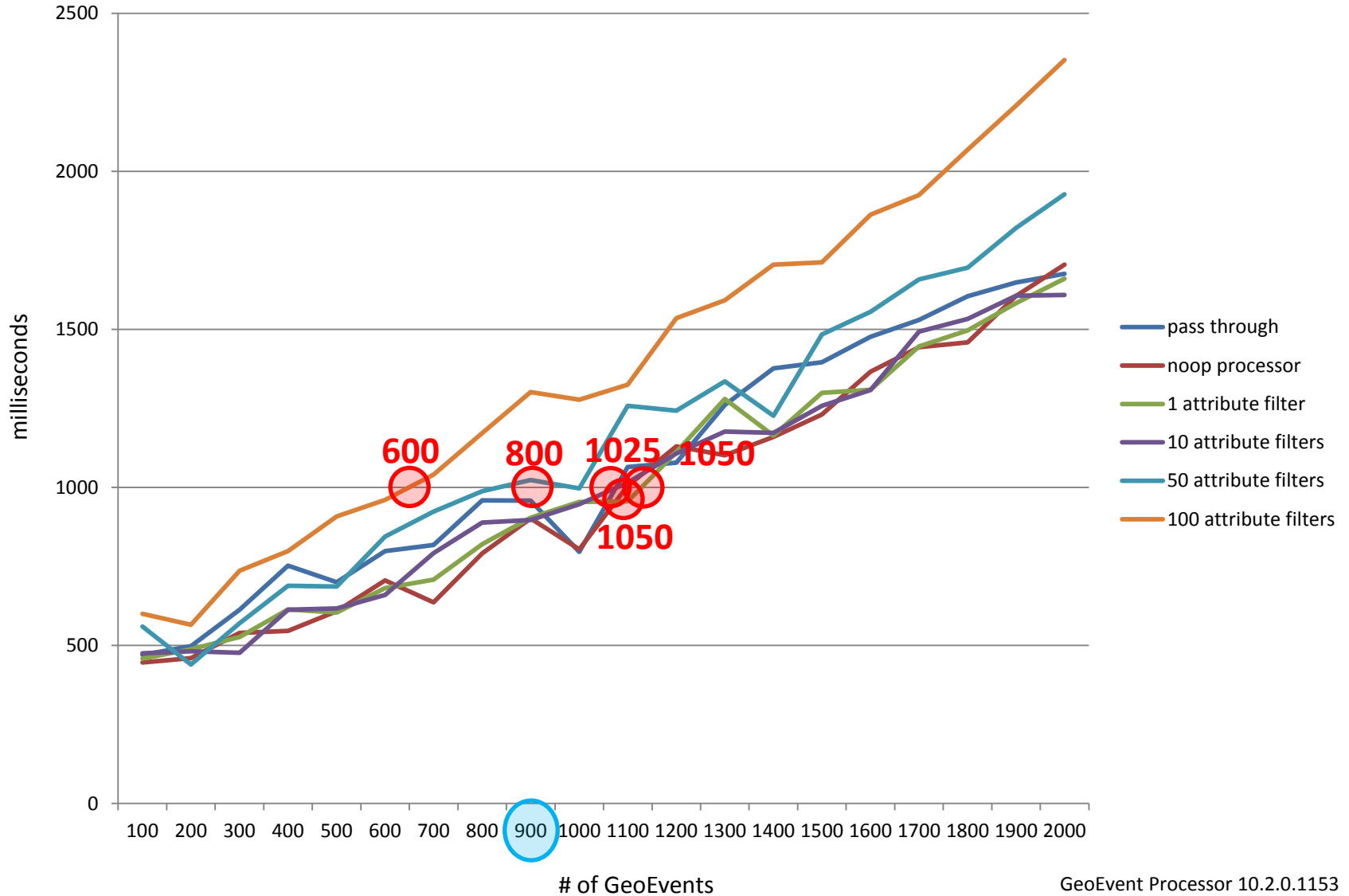
50 Attribute Filters Benchmark



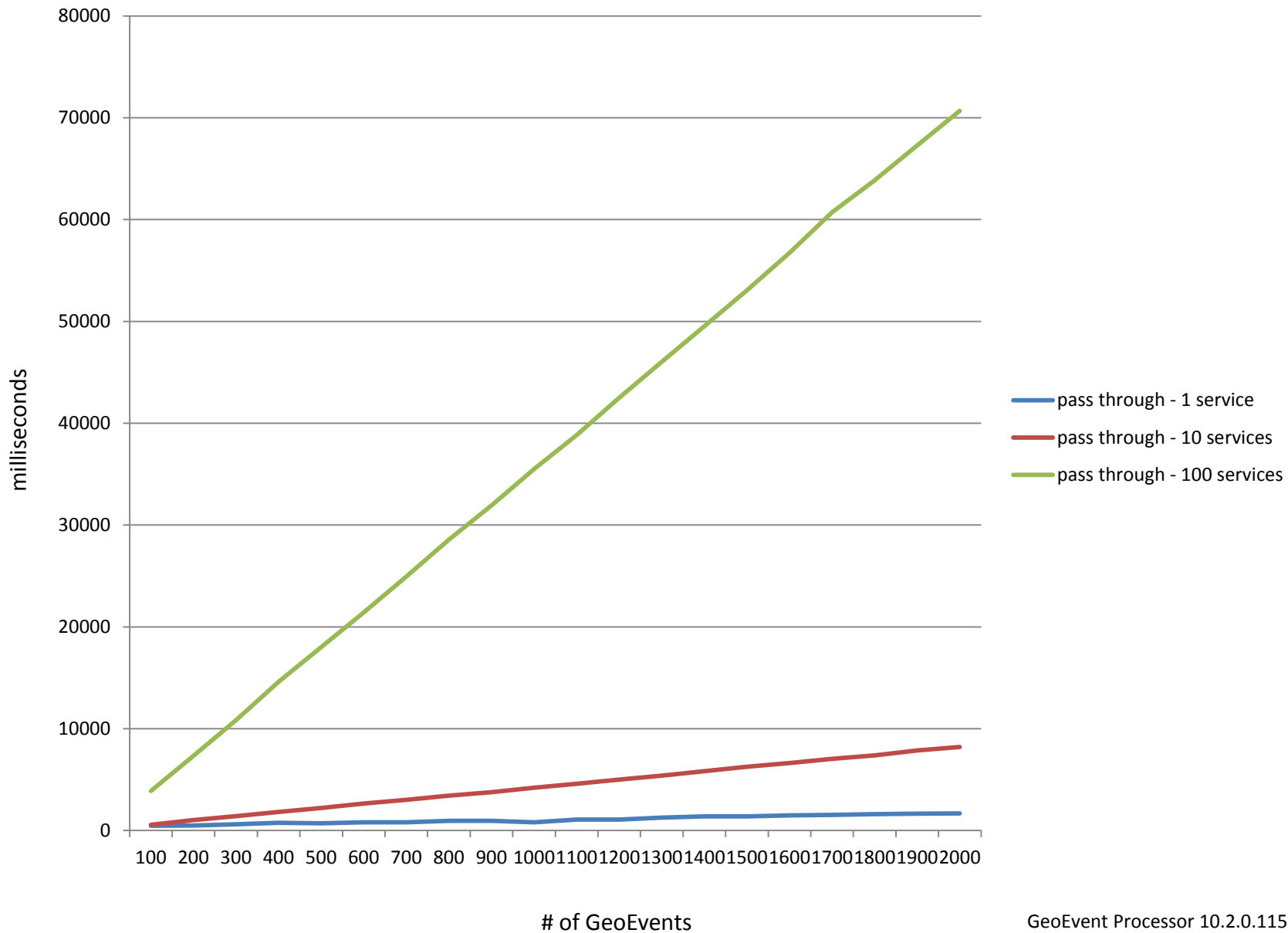
100 Attribute Filters Benchmark



GeoEvent Processor Attribute Filtering Benchmarks



GeoEvent Processor Path Through Benchmarks



GeoEvent Processor

Pass Through + Attribute Filtering Benchmarks

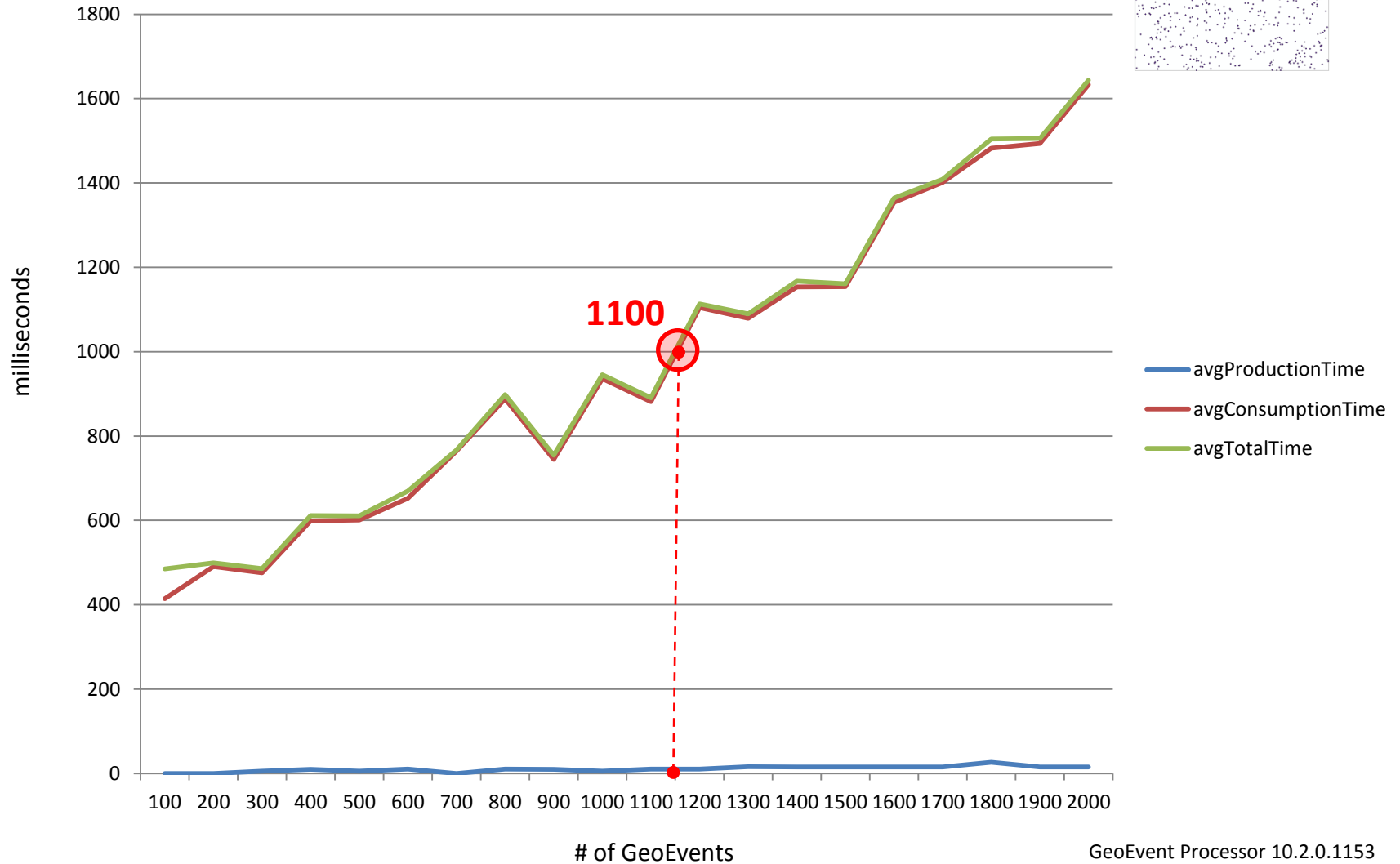
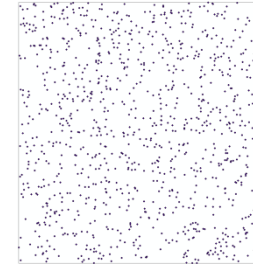


<i>Scenario</i>	<i># events per second</i>
Pass Through - 1 service	1050
Pass Through - 10 services	150
Pass Through - 100 services	20
No Operation Processor	1050
1 Attribute Filter	1050
10 Attribute Filters	1025
50 Attribute Filters	800
100 Attribute Filters	600

Spatial Filter Benchmarks

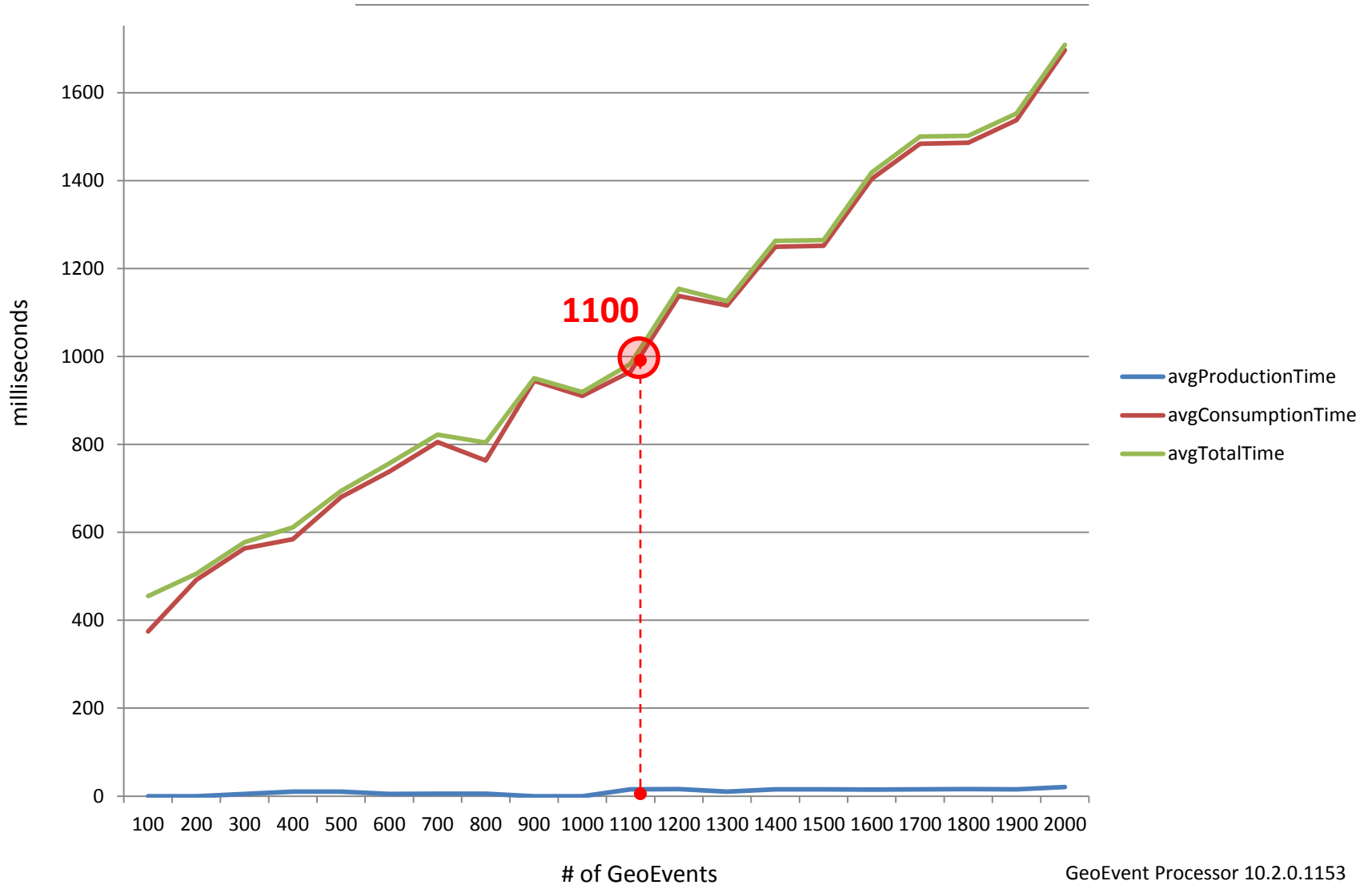
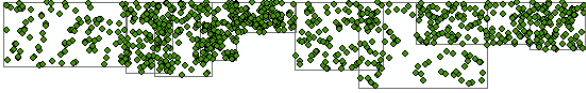
1 US County Boundary Envelope Spatial Filter Benchmark

US County Boundary Envelopes = 1 feature with 4 total vertices



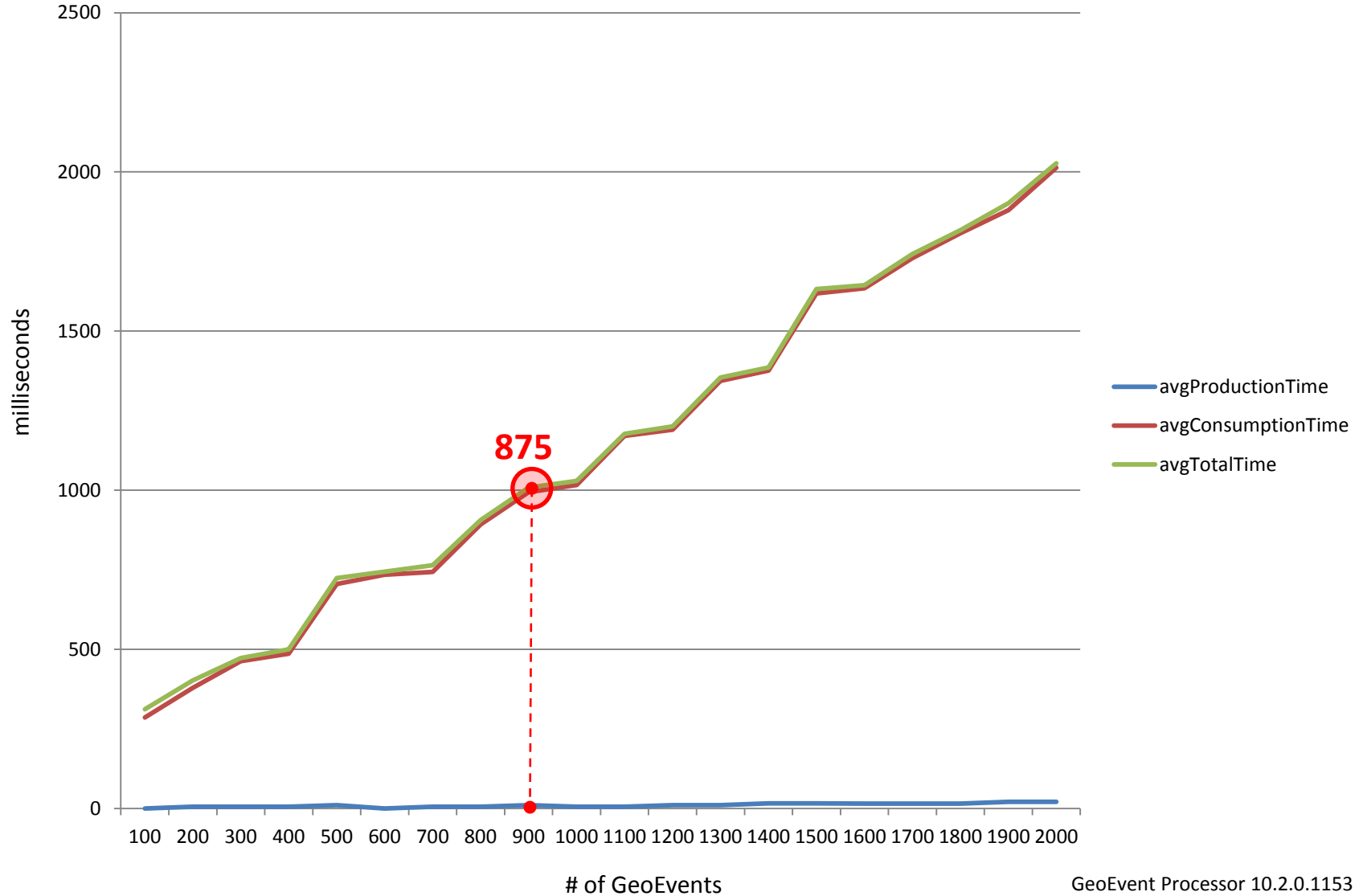
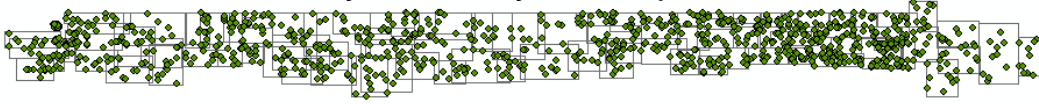
10 US County Boundary Envelopes Spatial Filter Benchmark

US County Boundary Envelopes = 10 features with 40 total vertices (4 average)



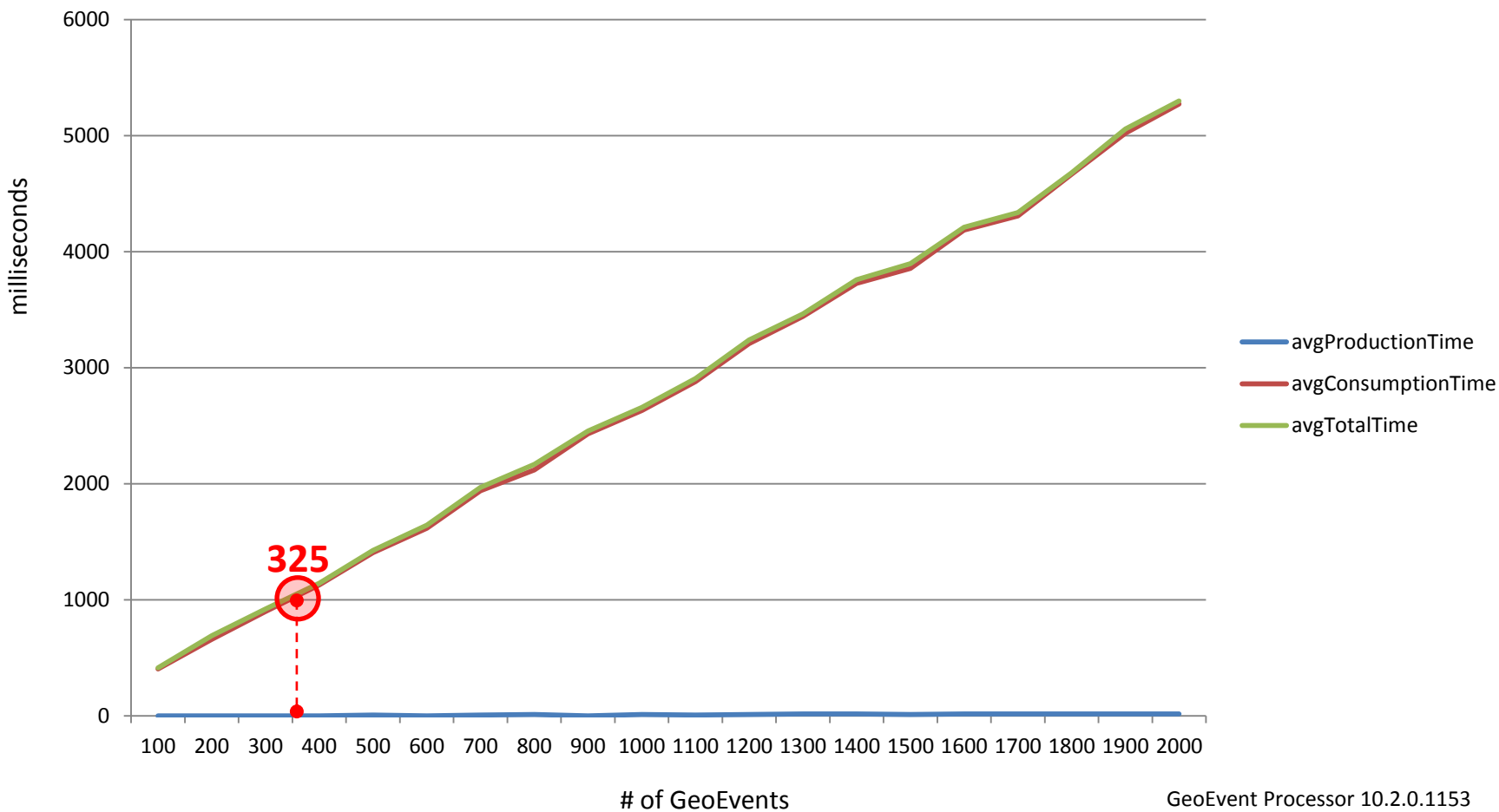
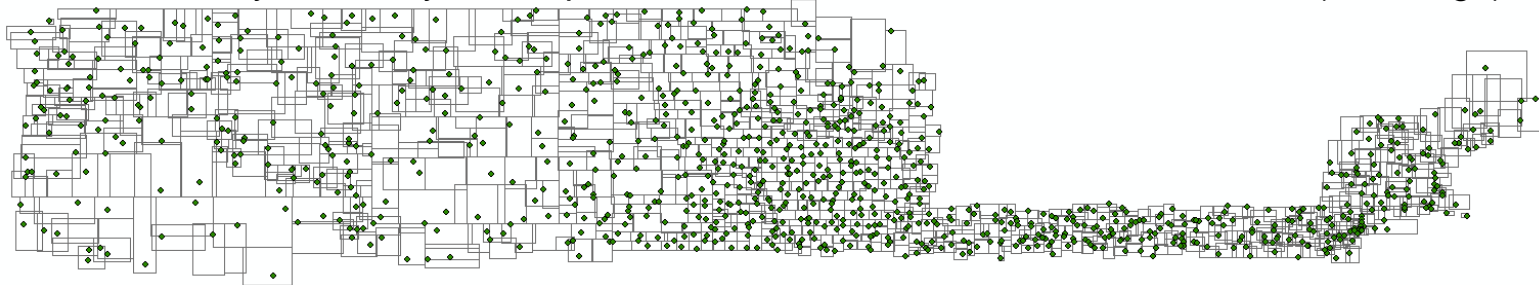
100 US County Boundary Envelopes Spatial Filter Benchmark

US County Boundary Envelopes = 100 features with 400 total vertices (4 average)



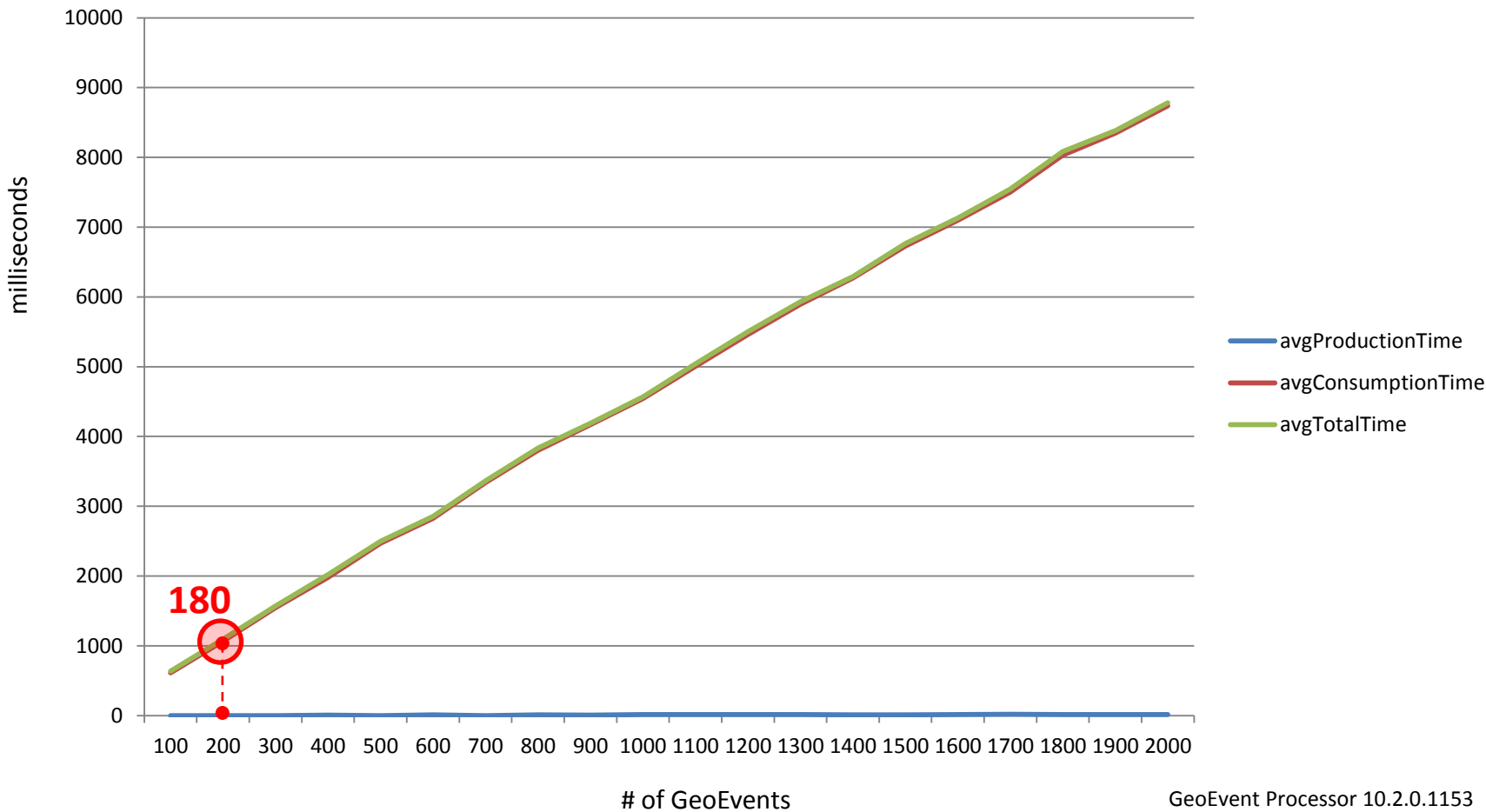
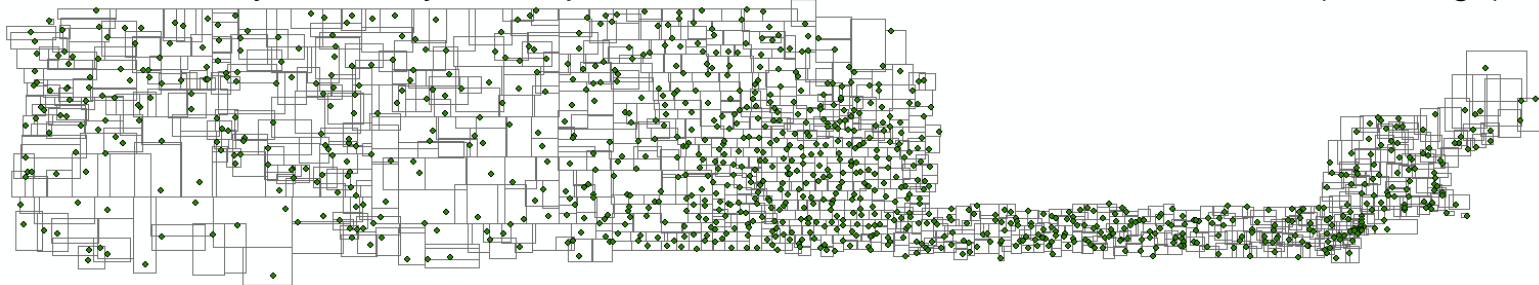
1,000 US County Boundary Envelopes Spatial Filter Benchmark

US County Boundary Envelopes = 1,000 features with 4,000 total vertices (4 average)



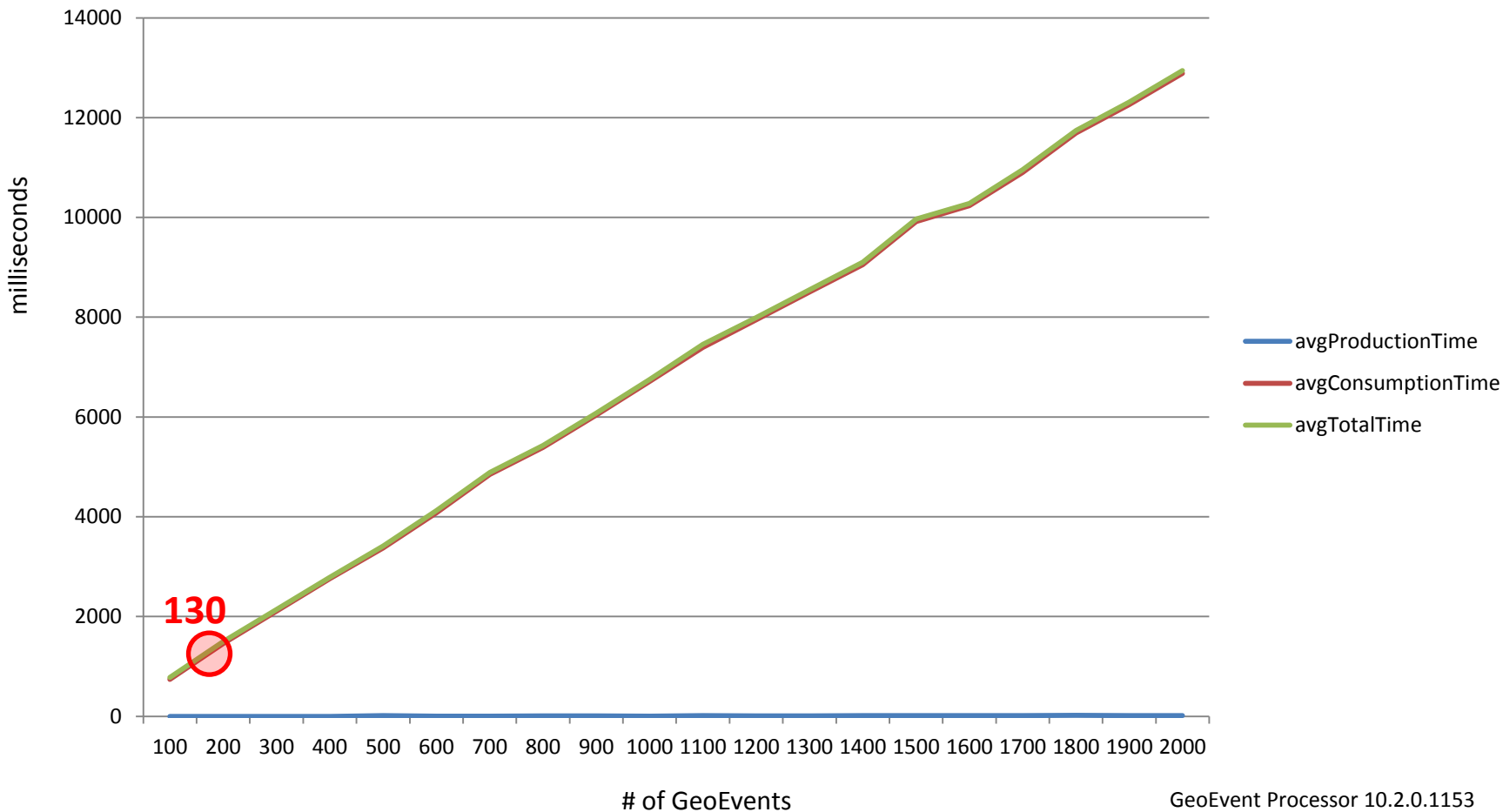
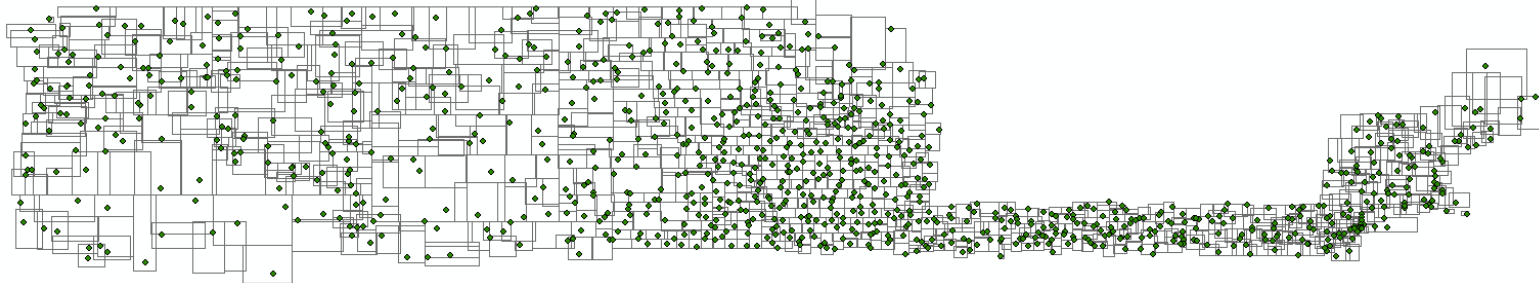
2,000 US County Boundary Envelopes Spatial Filter Benchmark

US County Boundary Envelopes = 2,000 features with 8,000 total vertices (4 average)

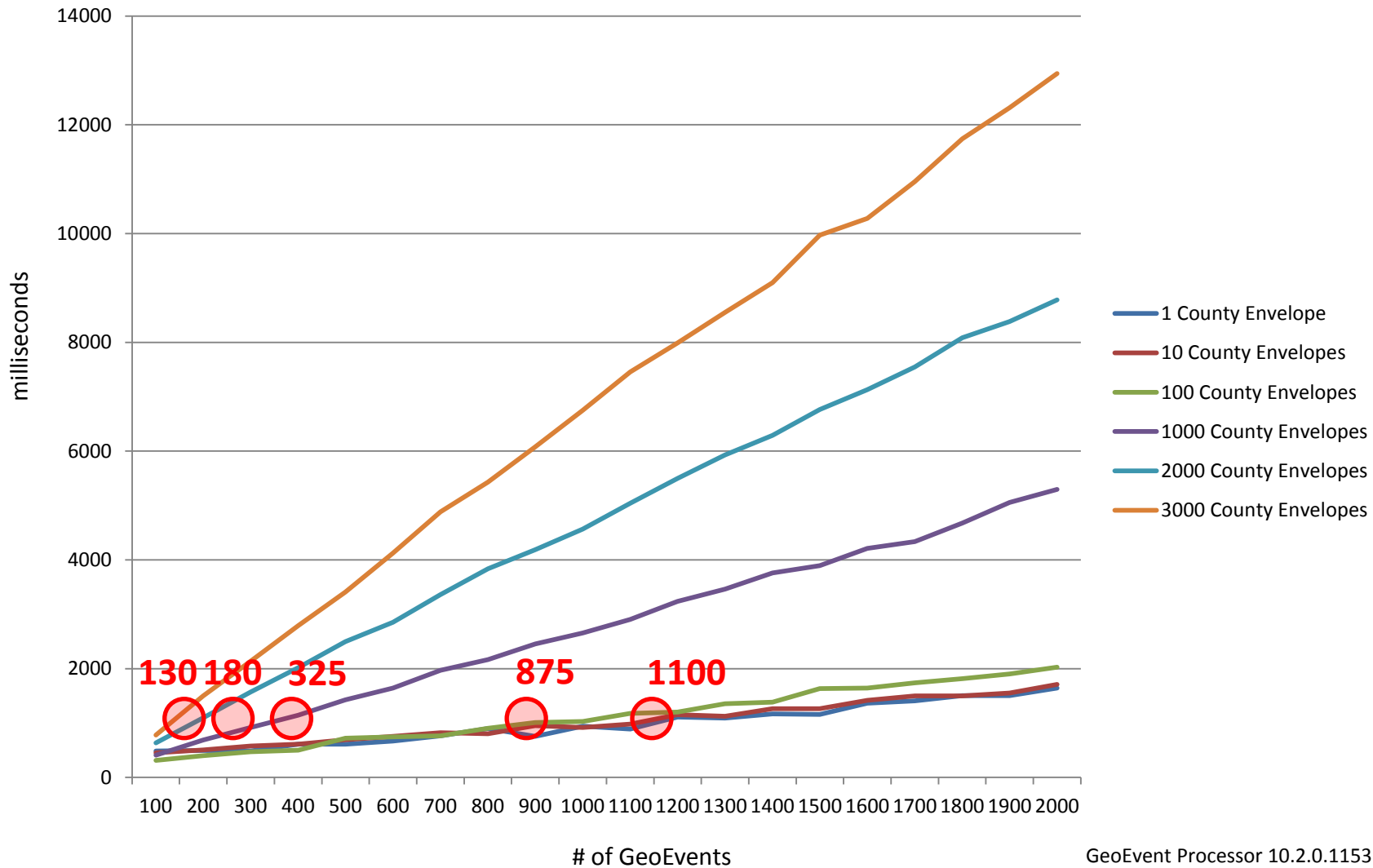
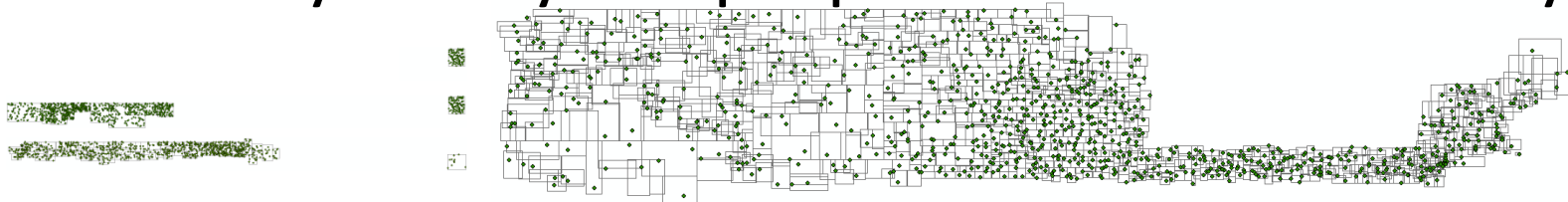


3,000 US County Boundary Envelopes Spatial Filter Benchmark

US County Boundary Envelopes = 3,000 features with 12,000 total vertices (4 average)

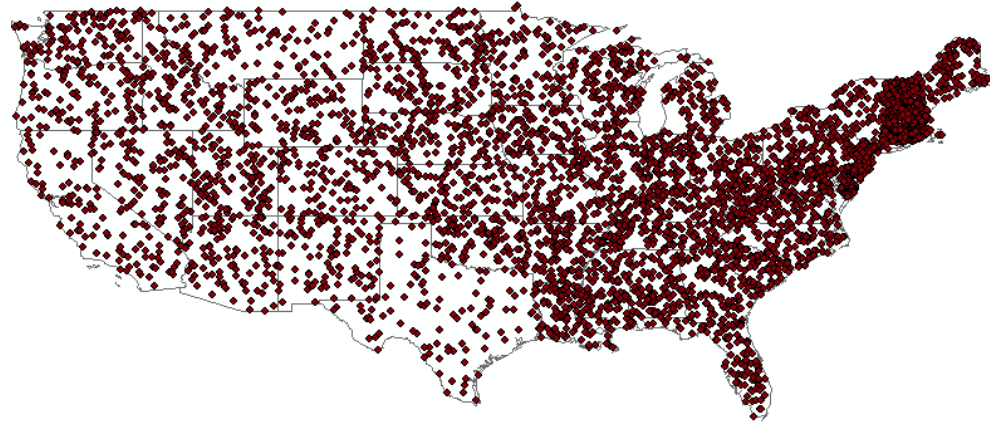
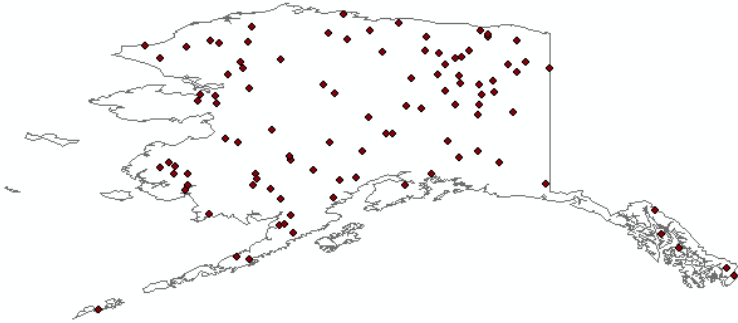


US County Boundary Envelopes Spatial Filter Benchmark Summary



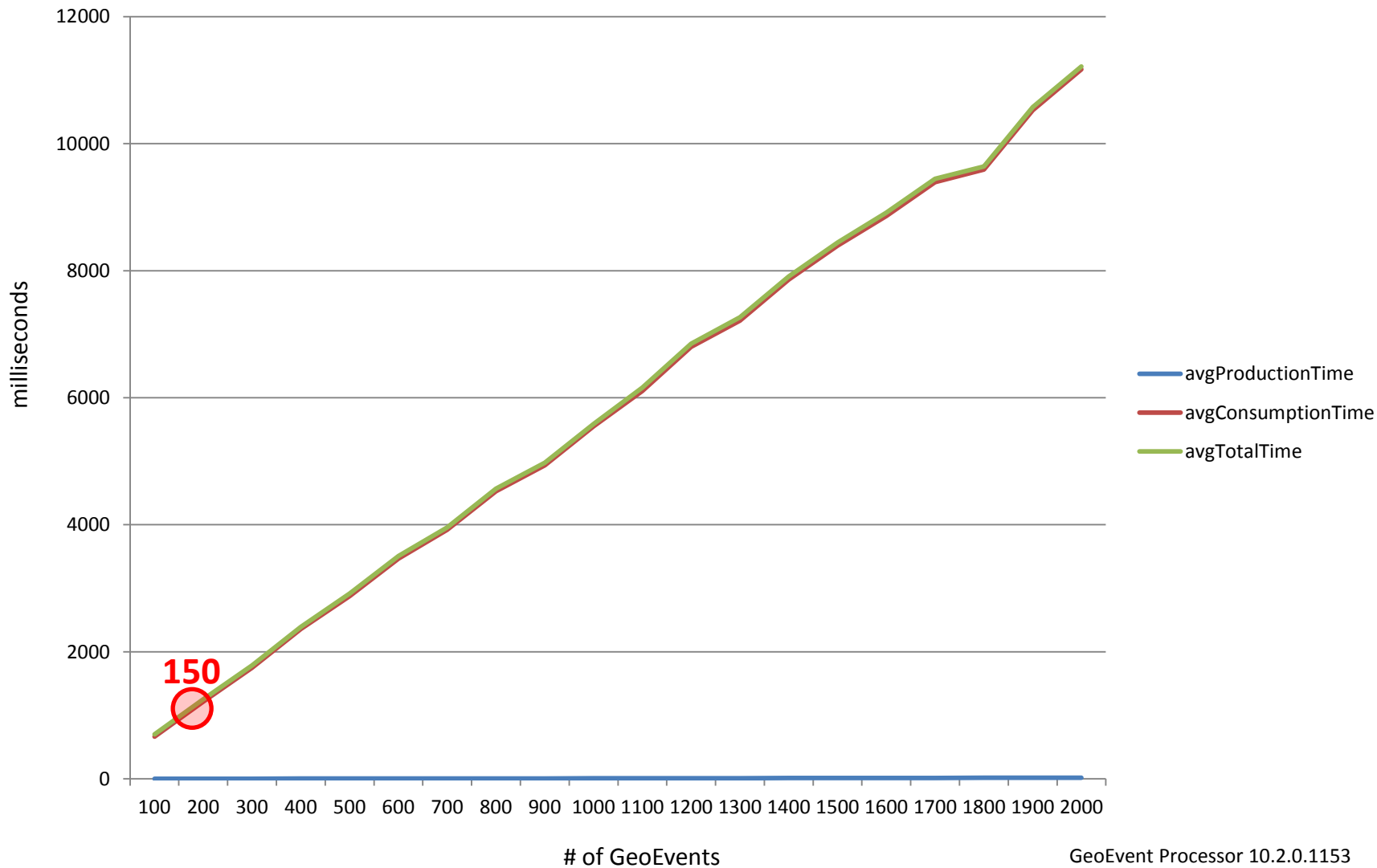
51 US States Spatial Filter Benchmark

US States Boundaries (Generalized) = 51 features with 13,691 total vertices (268 average)
100 randomized points per US State Boundary



51 US States Spatial Filter Benchmark

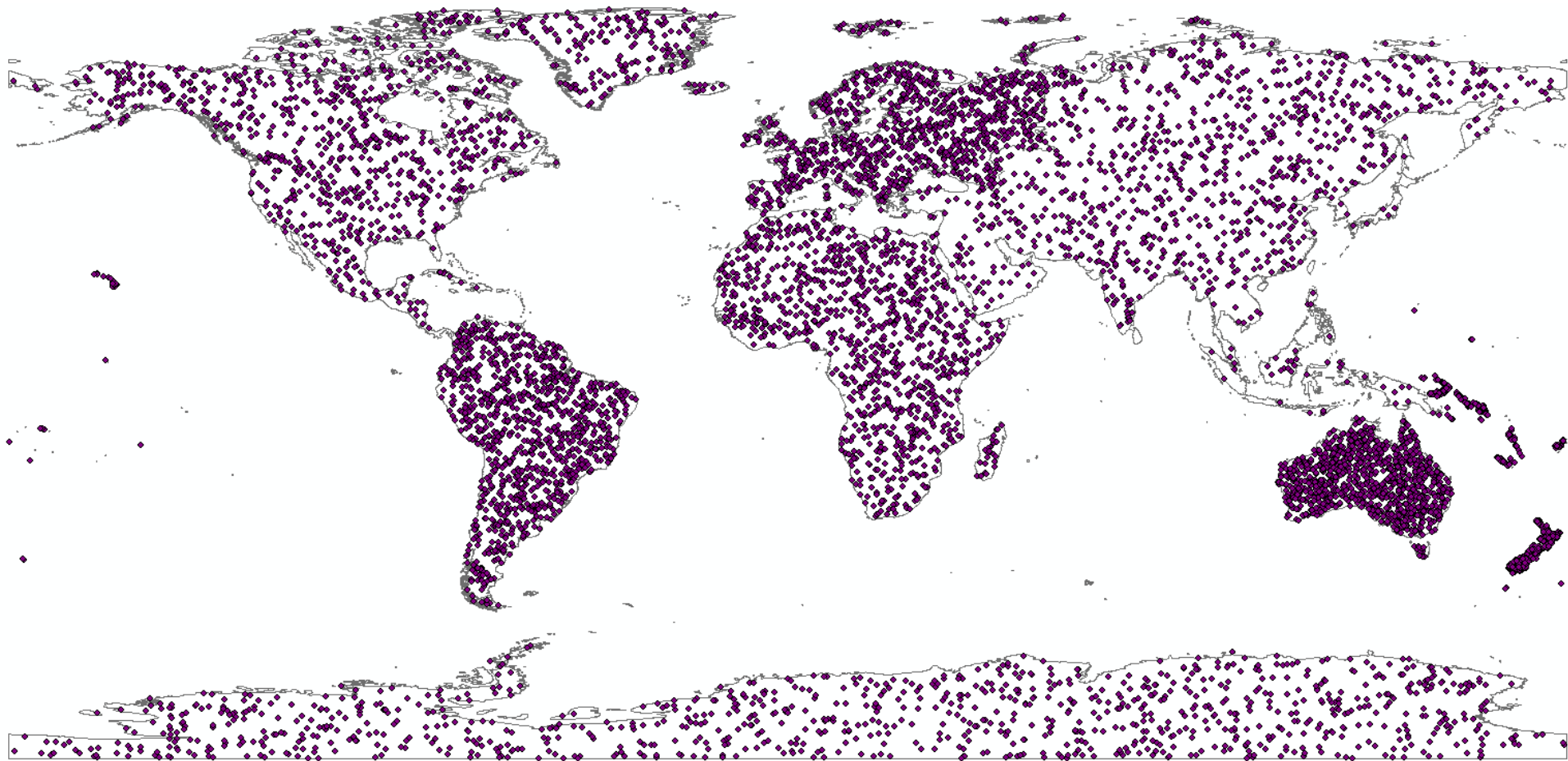
US States Boundaries (Generalized) = 51 features with 13,691 total vertices (268 average)



8 Continents Spatial Filter Benchmark

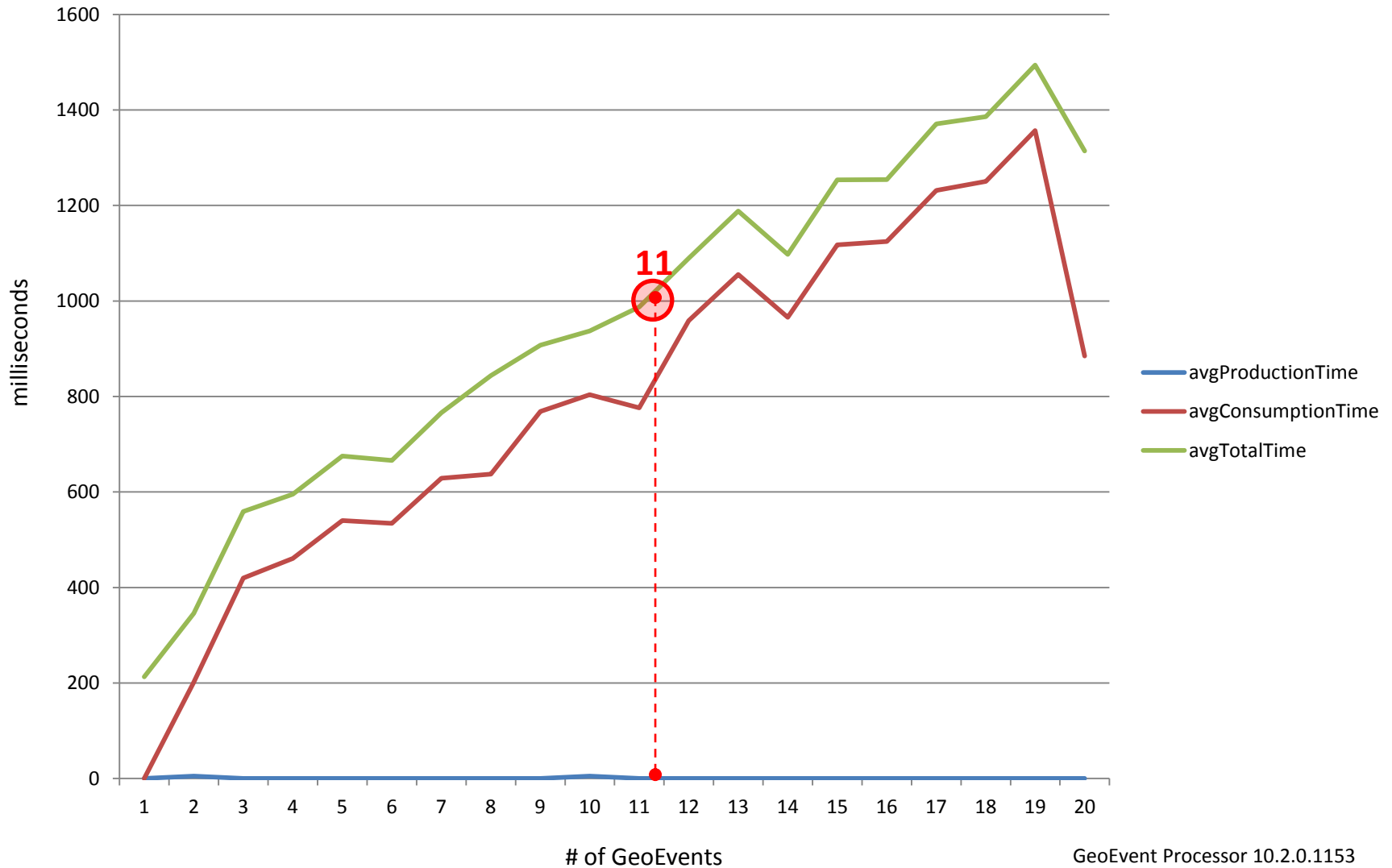
World Continent Boundaries = 8 features with 181,210 total vertices (22,641 average)

1000 randomized points per World Continent

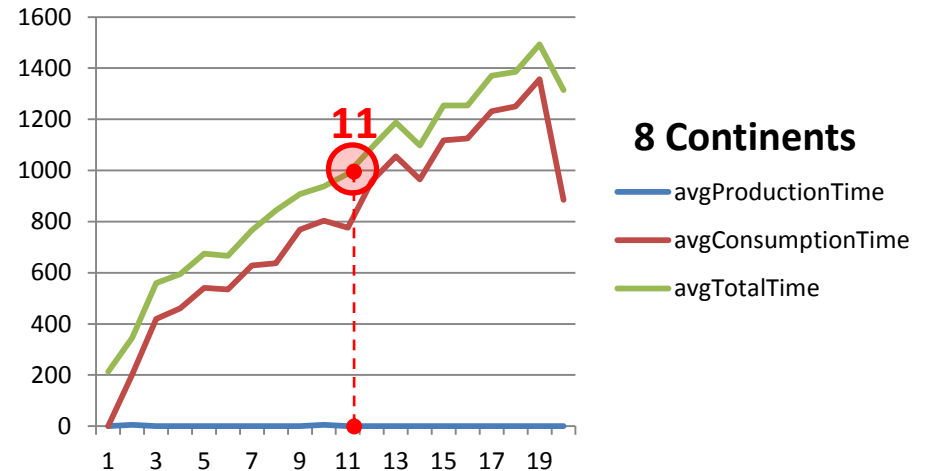
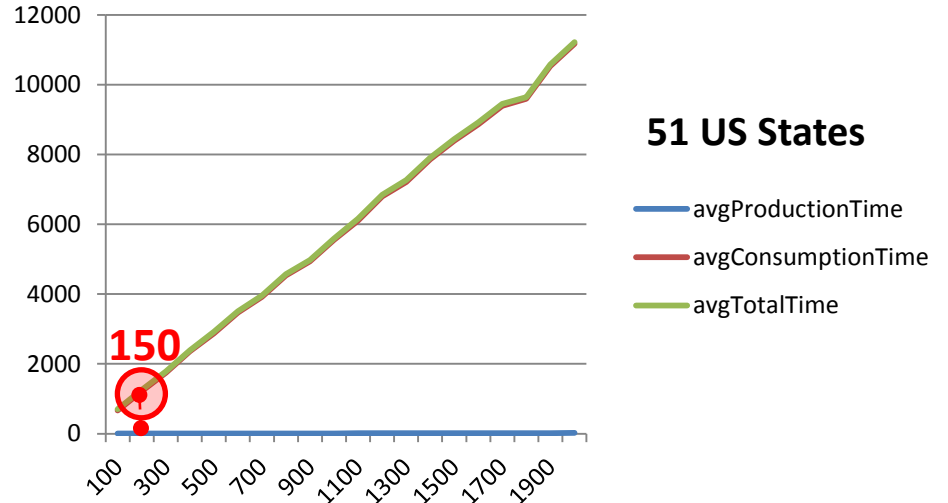
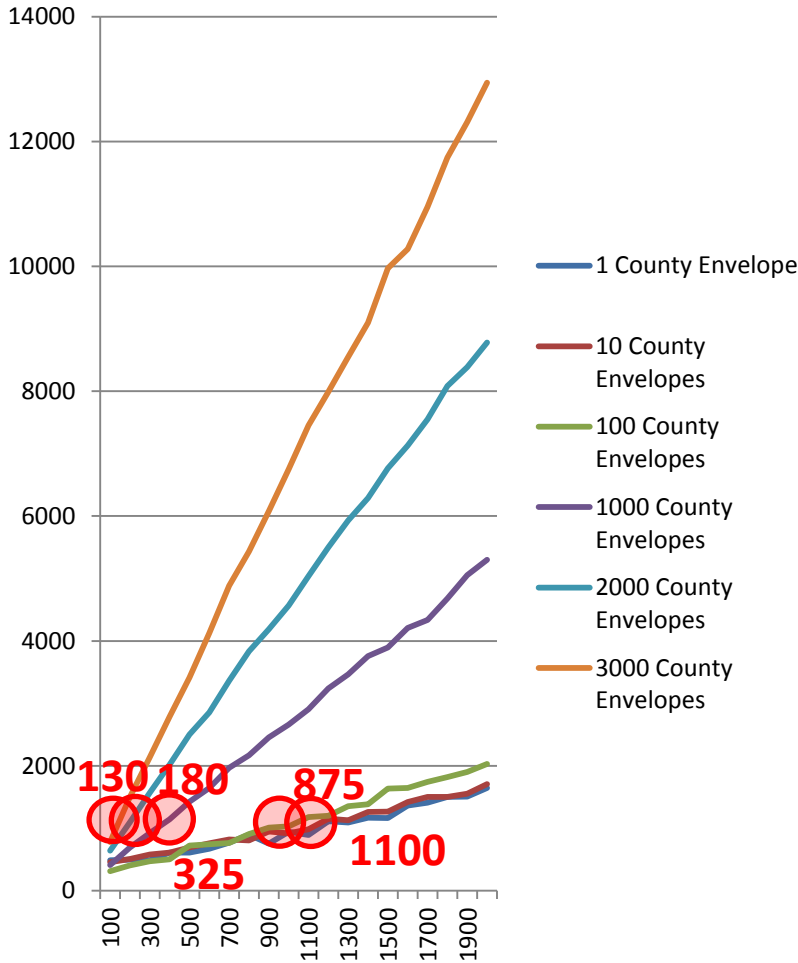
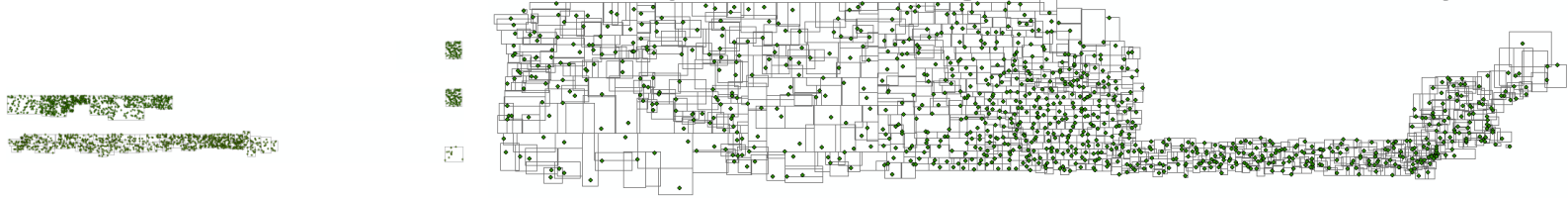


8 Continents Spatial Filter Benchmark

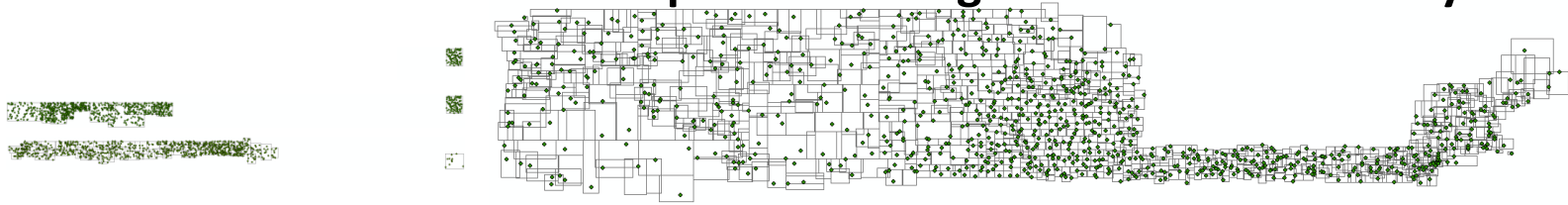
World Continent Boundaries = 8 features with 181,210 total vertices (22,641 average)



GeoEvent Processor Spatial Filtering Benchmark Summary



GeoEvent Processor Spatial Filtering Benchmark Summary



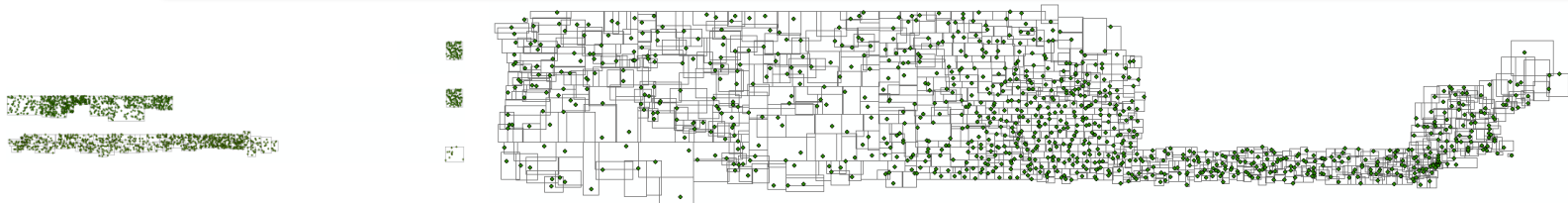
<i>Scenario</i>	<i># of GeoFences</i>	<i># of Vertices</i>	<i># events per second</i>
1 County Envelope	1	4	1100
10 County Envelopes	10	40	1100
100 County Envelopes	100	400	875
1000 County Envelopes	1,000	4,000	325
2000 County Envelopes	2,000	8,000	180
3000 County Envelopes	3,000	12,000	130
US State Boundaries	51	13,691	150
Continent Boundaries	8	181,210	11

Overall Summary

GeoEvent Processor Benchmark Summary



<i>Scenario</i>	<i># events per second (1136)</i>	<i># events per second (1153)</i>
Pass Through - 1 service	900	1050
Pass Through - 10 services	-	150
Pass Through - 100 services	-	20
No Operation Processor	800	1050
1 Attribute Filter	700	1050
10 Attribute Filters	600	1025
50 Attribute Filters	600	800
100 Attribute Filters	400	600



<i>Scenario</i>	<i># of GeoFences</i>	<i># of Vertices</i>	<i># events per second (1136)</i>	<i># events per second (1153)</i>
1 County Envelope	1	4	1200	1100
10 County Envelopes	10	40	1000	1100
100 County Envelopes	100	400	600	875
1000 County Envelopes	1,000	4,000	250	325
2000 County Envelopes	2,000	8,000	-	180
3000 County Envelopes	3,000	12,000	-	130
US State Boundaries	51	13,691	110	150
Continent Boundaries	8	181,210	15	11