Principles of High Performance Map Rendering

No single answer to fast serverside maps!

Rather a balance of considerations...

Latency - Scalability - Stability

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FIFO priority	distribute priority	no queue, just limit
No pooling/throttling	pooling	throttling
High CPU/Mem	High CPU/Mem	High CPU/Mem
SSD's	Good Disks	io wait vs swapping
Lots in-memory	careful with memory	really careful
Optimize low zooms	Optimize high zooms	Optimize everything
Chip speed GHz	Number of Cores	Number of Machines

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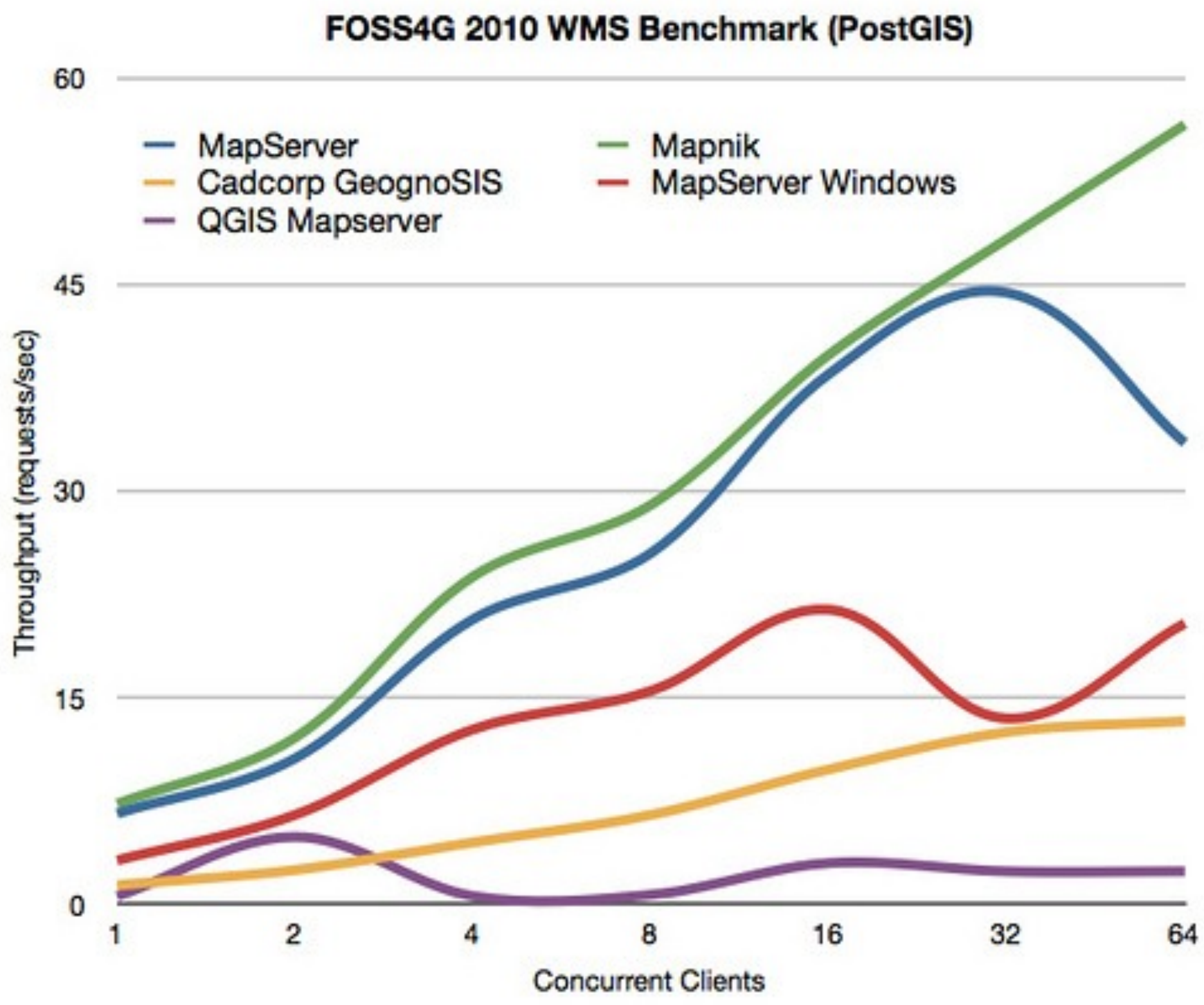
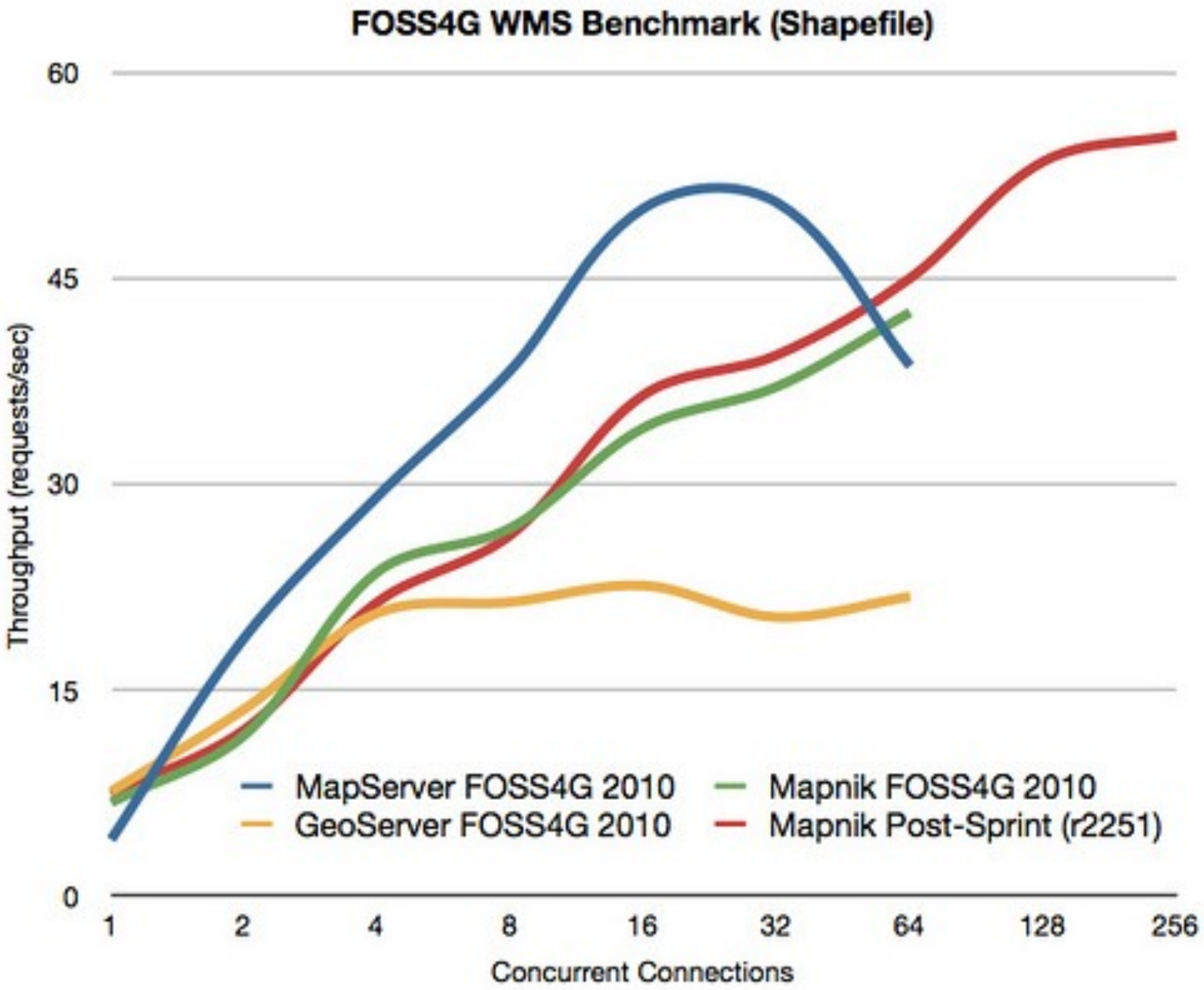
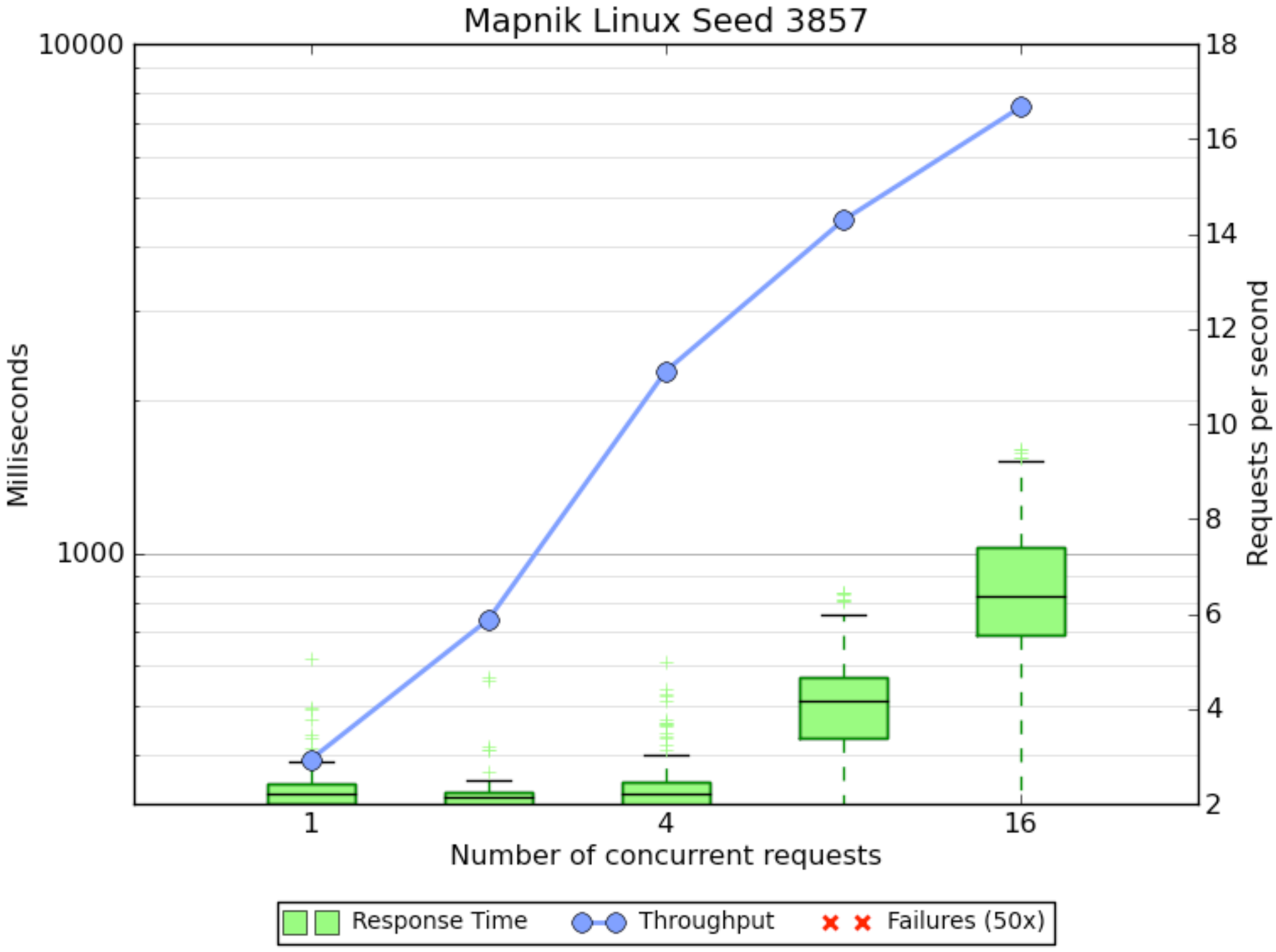
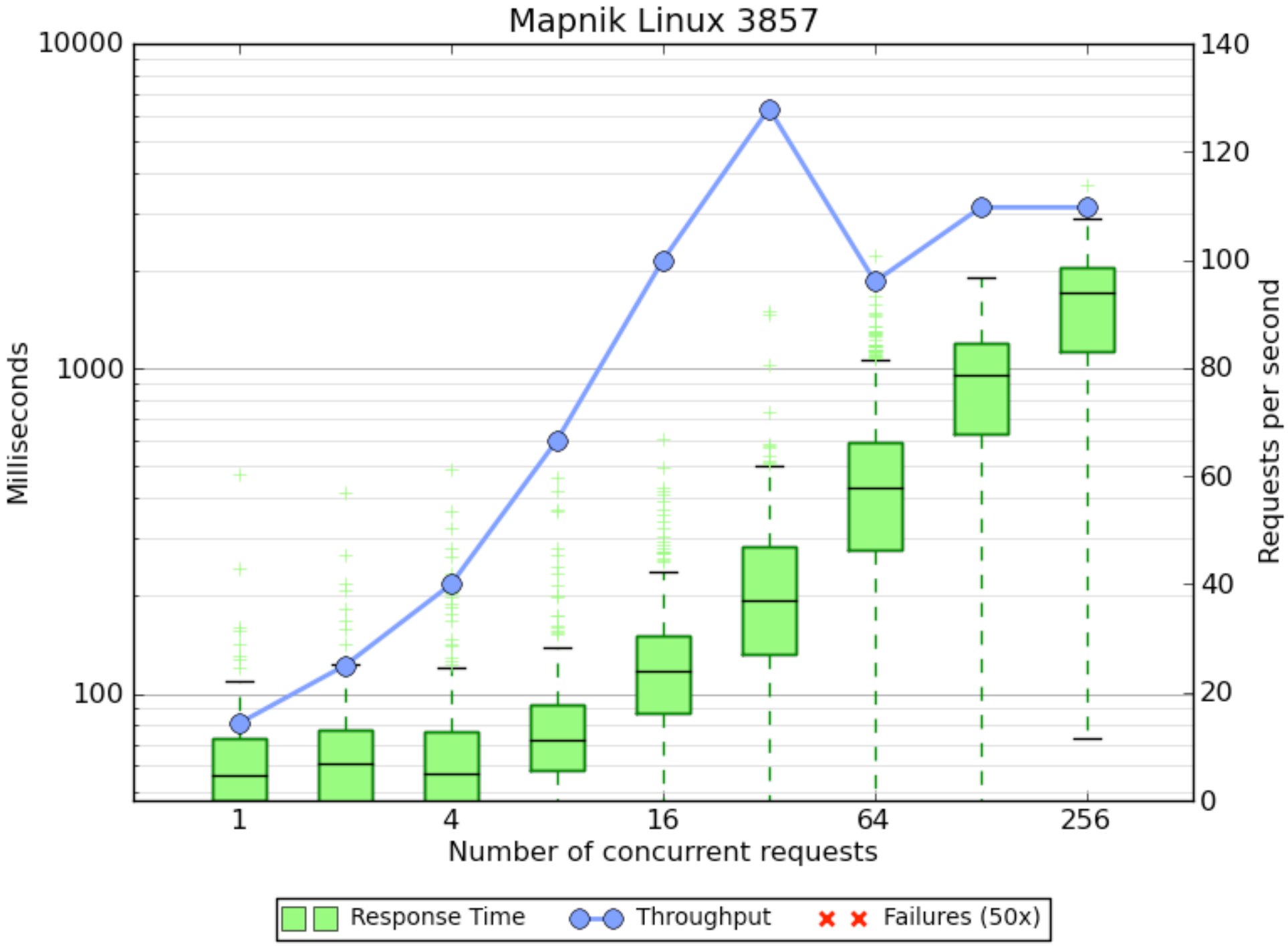

FOSS4G 2010 WMS Benchmark (PostGIS)
MapServer
Cadcorp GeognoSIS
QGIS Mapserver
Mapnik
MapServer Windows
Throughput (requests/sec)
60
45
30
15
0
1
2
4
8
16
32
64
Concurrent Clients



http://developmentseed.org/blog/2010/oct/19/qa-mapnik-performance-just-important-its-beauty/


Mapnik Linux Seed 3857
10000
1000
Milliseconds
18
16
14
12
10
8
6
4
2
Requests per second
1
4
16
Number of concurrent requests
Response Time
Throughput
Failures (50x)


Mapnik Linux 3857
10000
1000
100
140
120
100
80
60
40
20
0
Milliseconds
Requests per second
1
4
16
64
256
Number of concurrent requests
Response Time
Throughput
Failures (50x)