Threaded Network Interrupts

Steven Rostedt
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network-thread-irq.odp

Disclaimer

I'm not a network guru

I had to fight for the hardware I have

Threaded Interrupts

- Similar to NAPI code
- Interrupt comes in, disable the device
- Thread is awoken
- Thread polls on device, processing packets
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Benchmarking

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  - Could not get working with the threaded infrastructure
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  - Decided to just give up and test with the RT patch
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Benchmark Machine

- Two Nehalem machines
- 2 x 4 core Intel Xeons
- Chelsio Communications Inc T310 10GbE Single Port Adapter

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- Ran netperf -H host
- Red Hat Enterprise Linux 5.4
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  - 2.6.31-rt10
- Hard and Soft interrupts as threads
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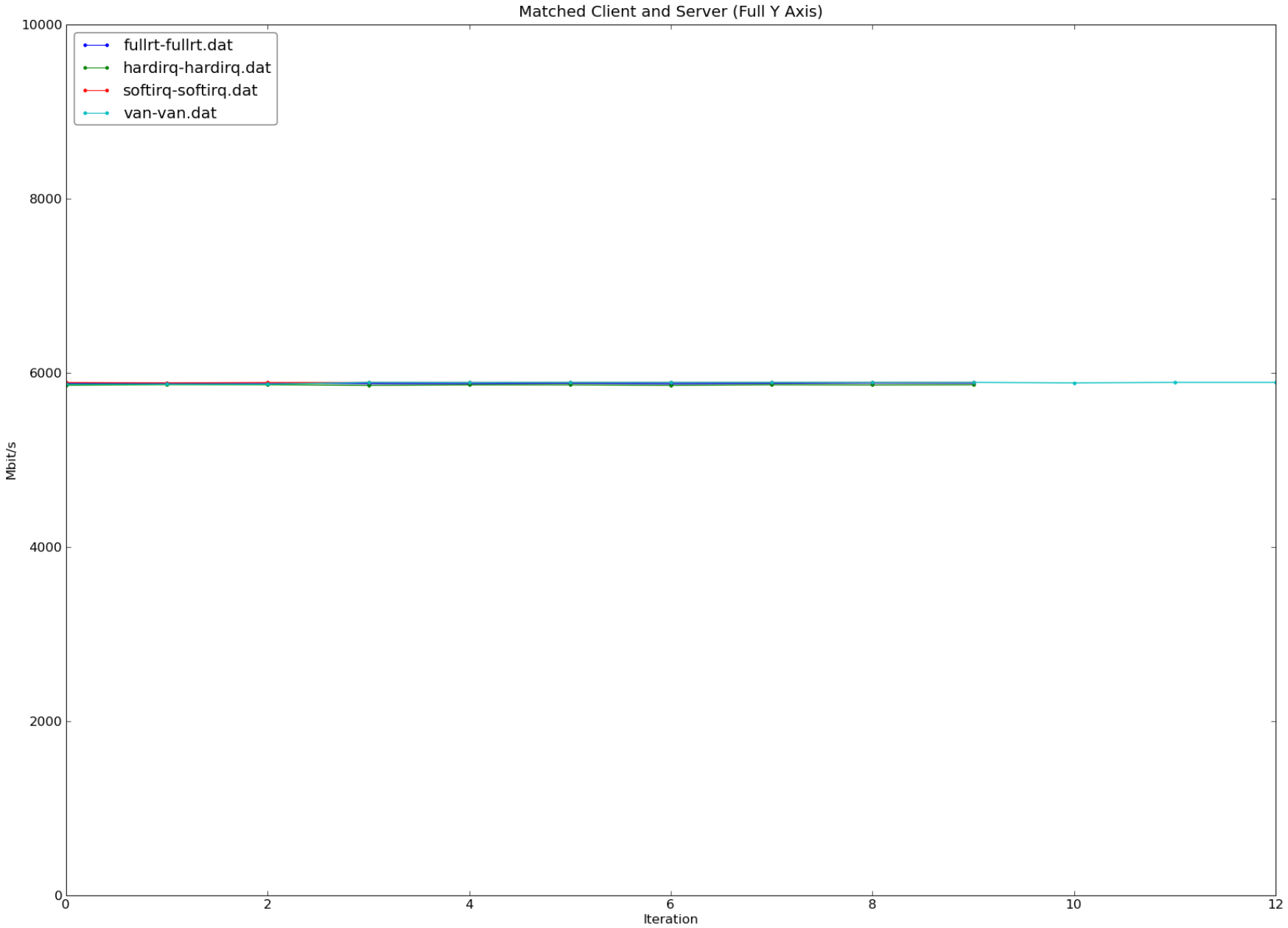
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fullrt-fullrt.dat
hardirq-hardirq.dat
softirq-softirq.dat
van-van.dat
Mbit/s
Iteration
0
2000
4000
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8000
10000
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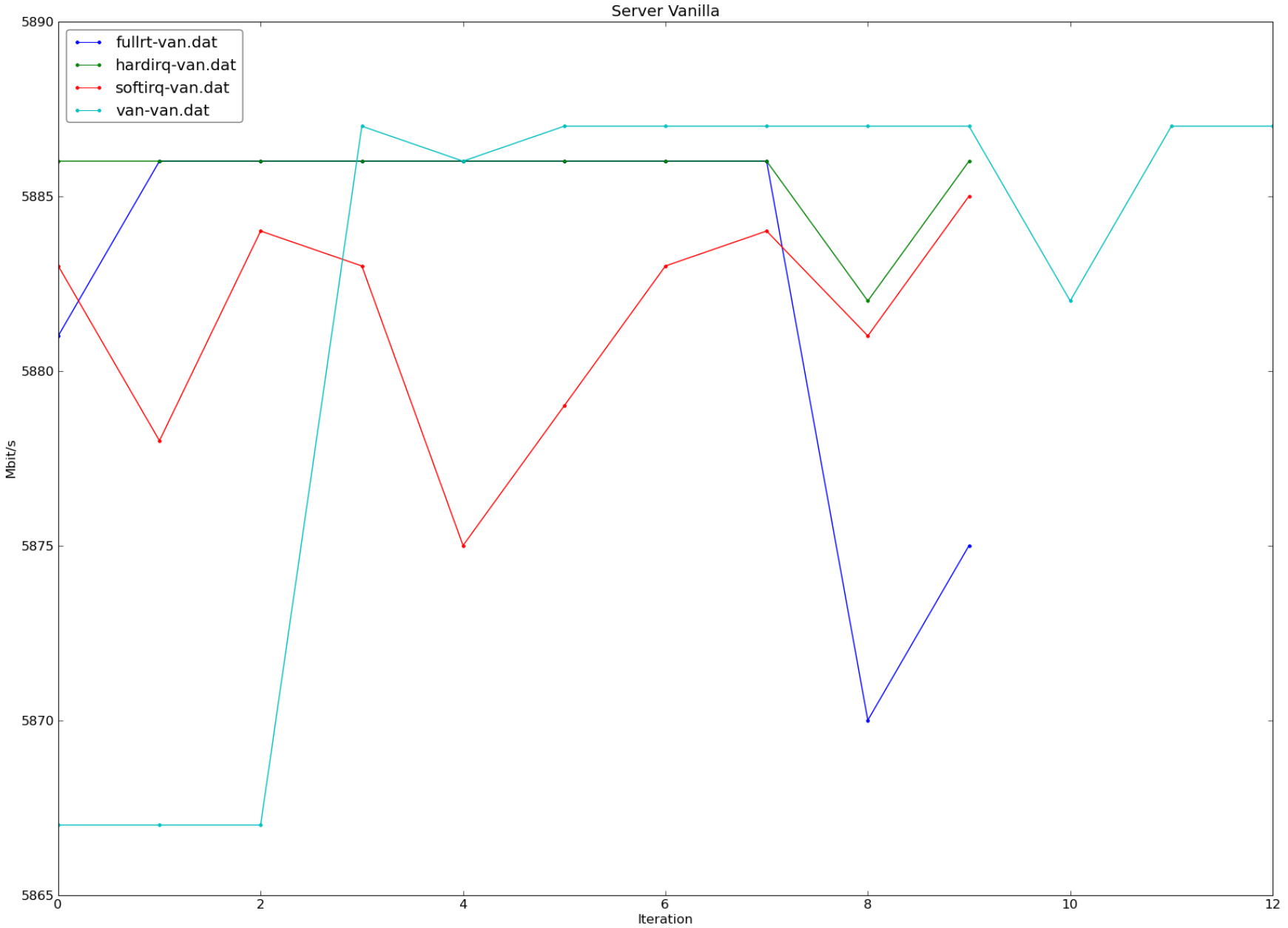
Server Vanilla
fullrt-van.dat
hardirq-van.dat
softirq-van.dat
van-van.dat
Mbit/s
Iteration
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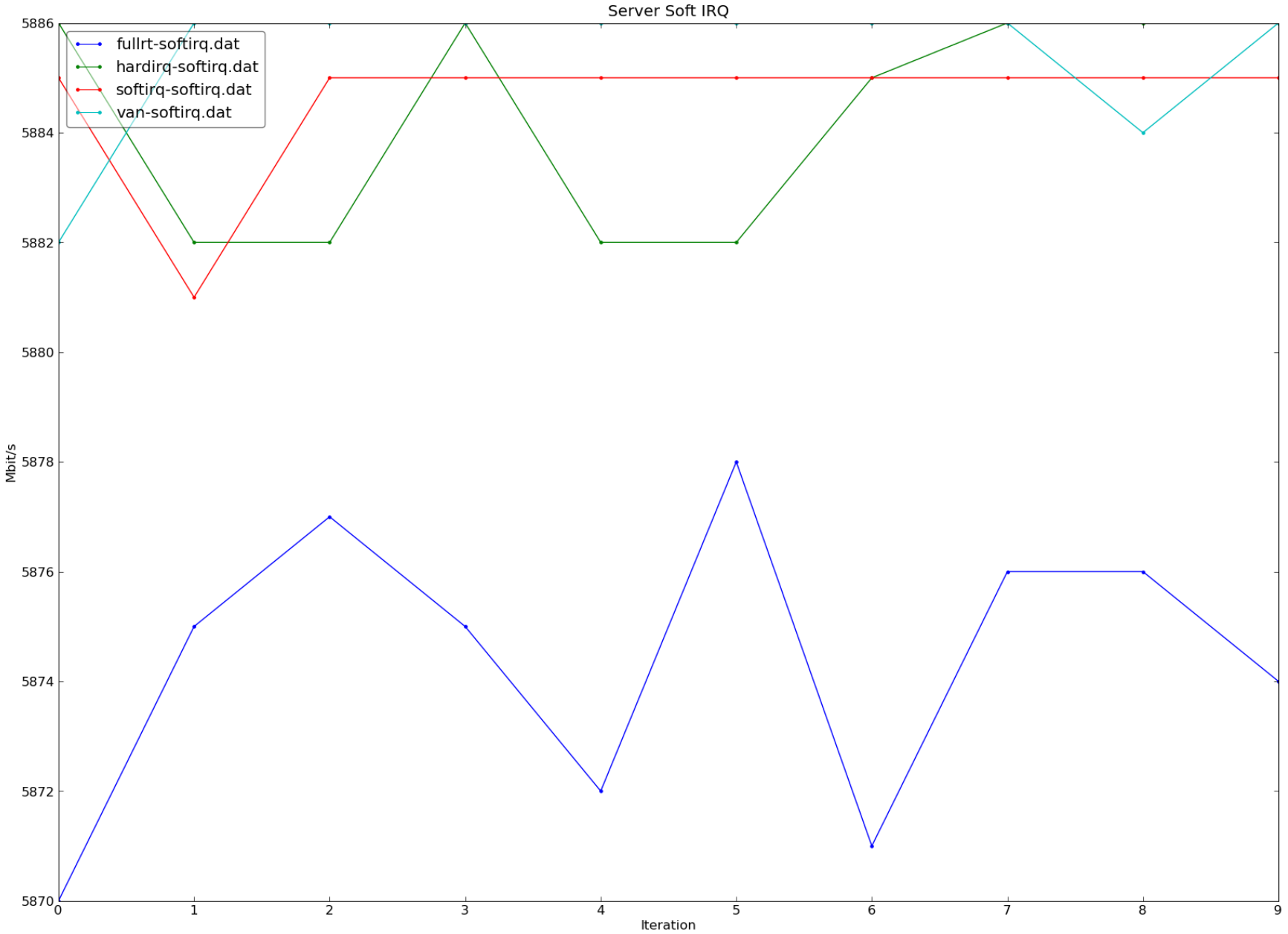
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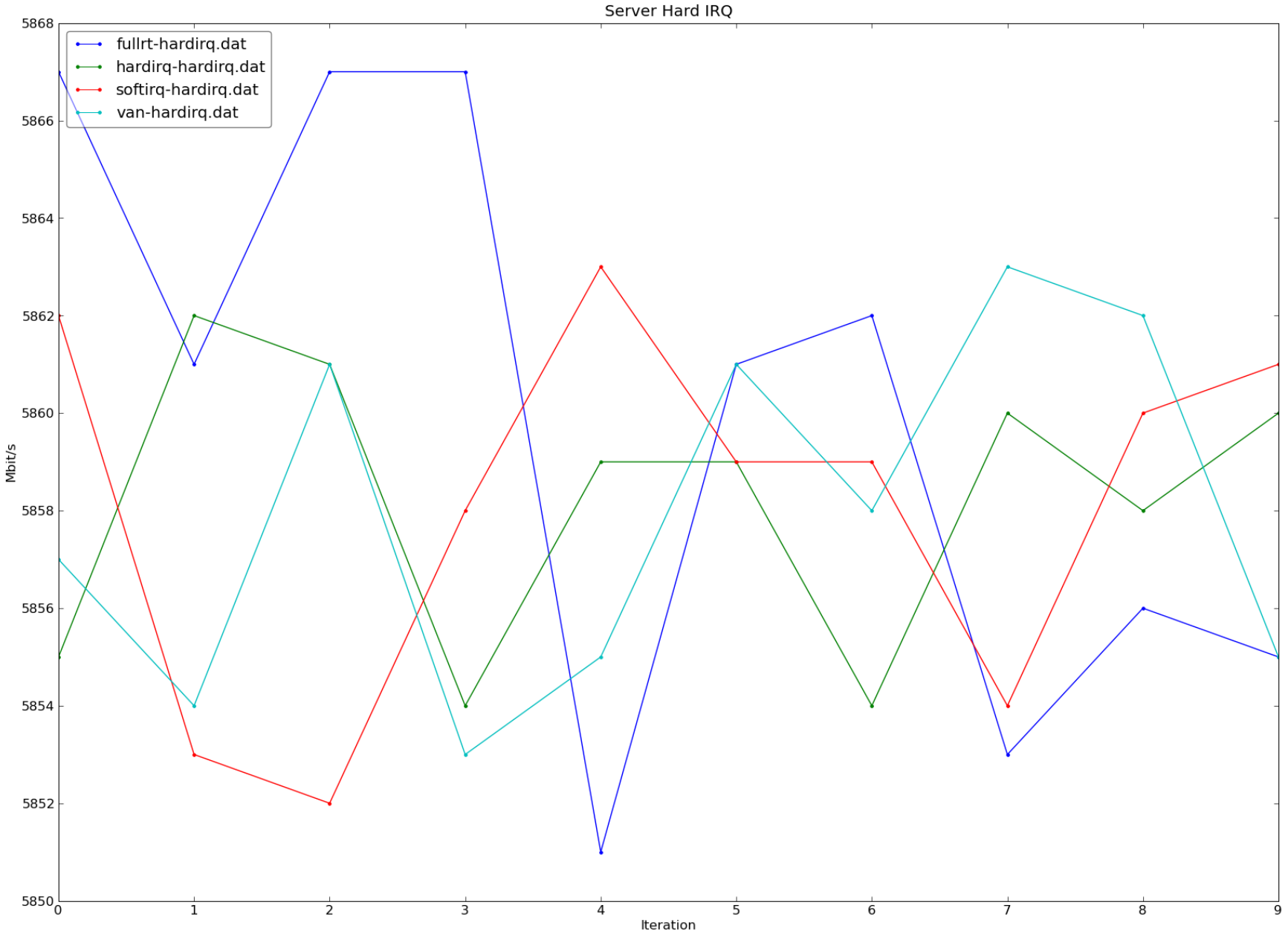
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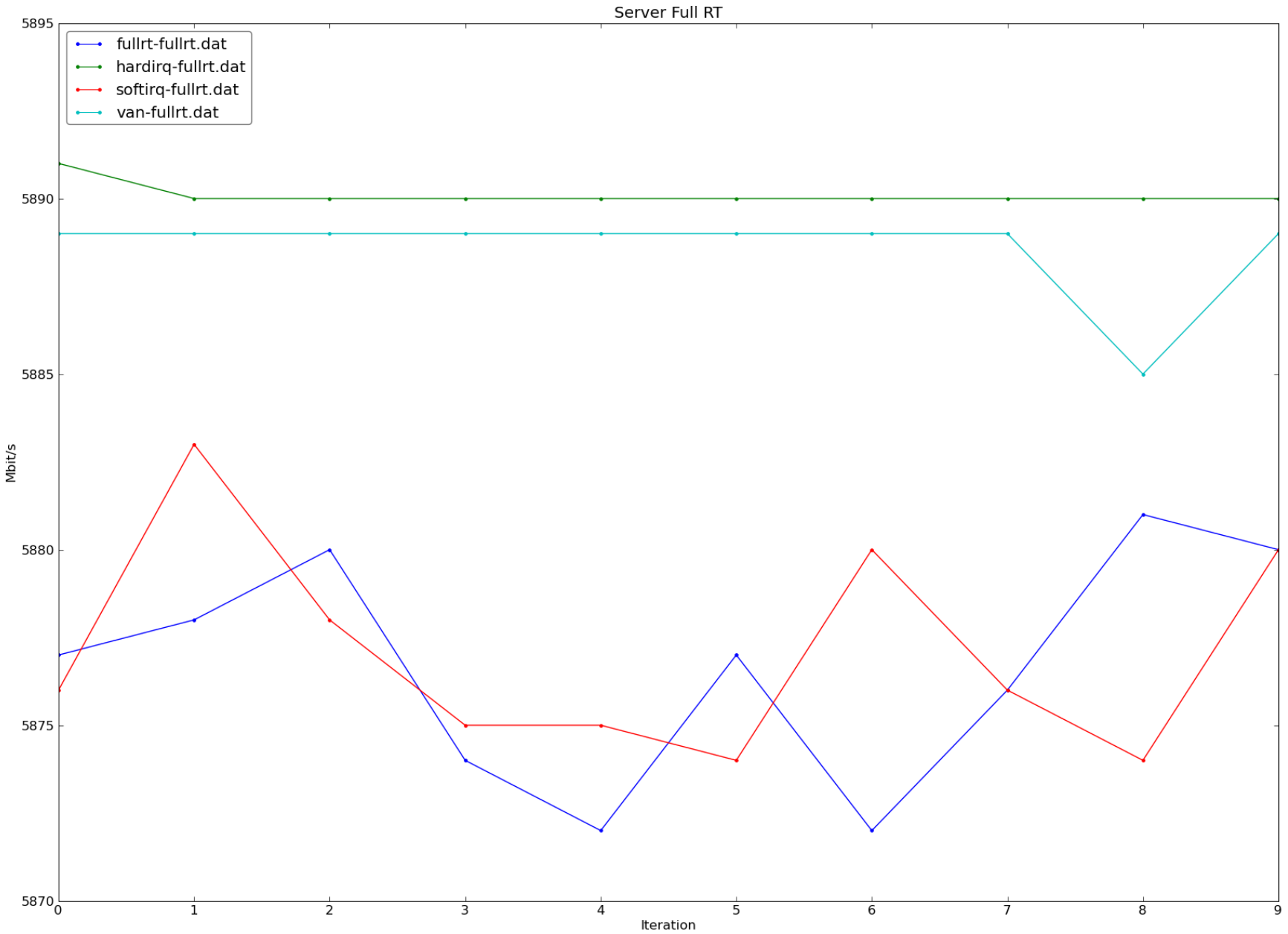
Server Full RT
fullrt-fullrt.dat
hardirq-fullrt.dat
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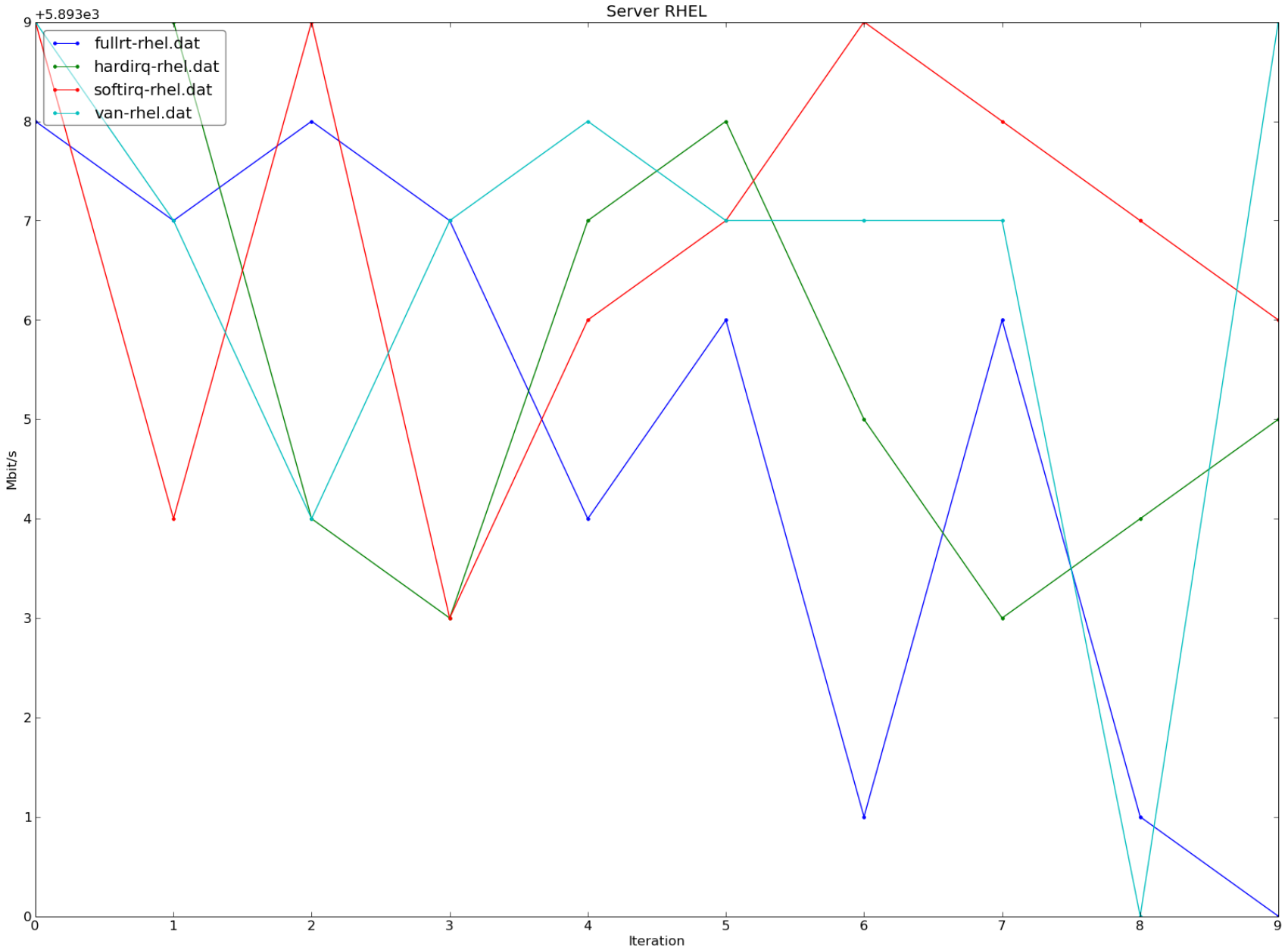
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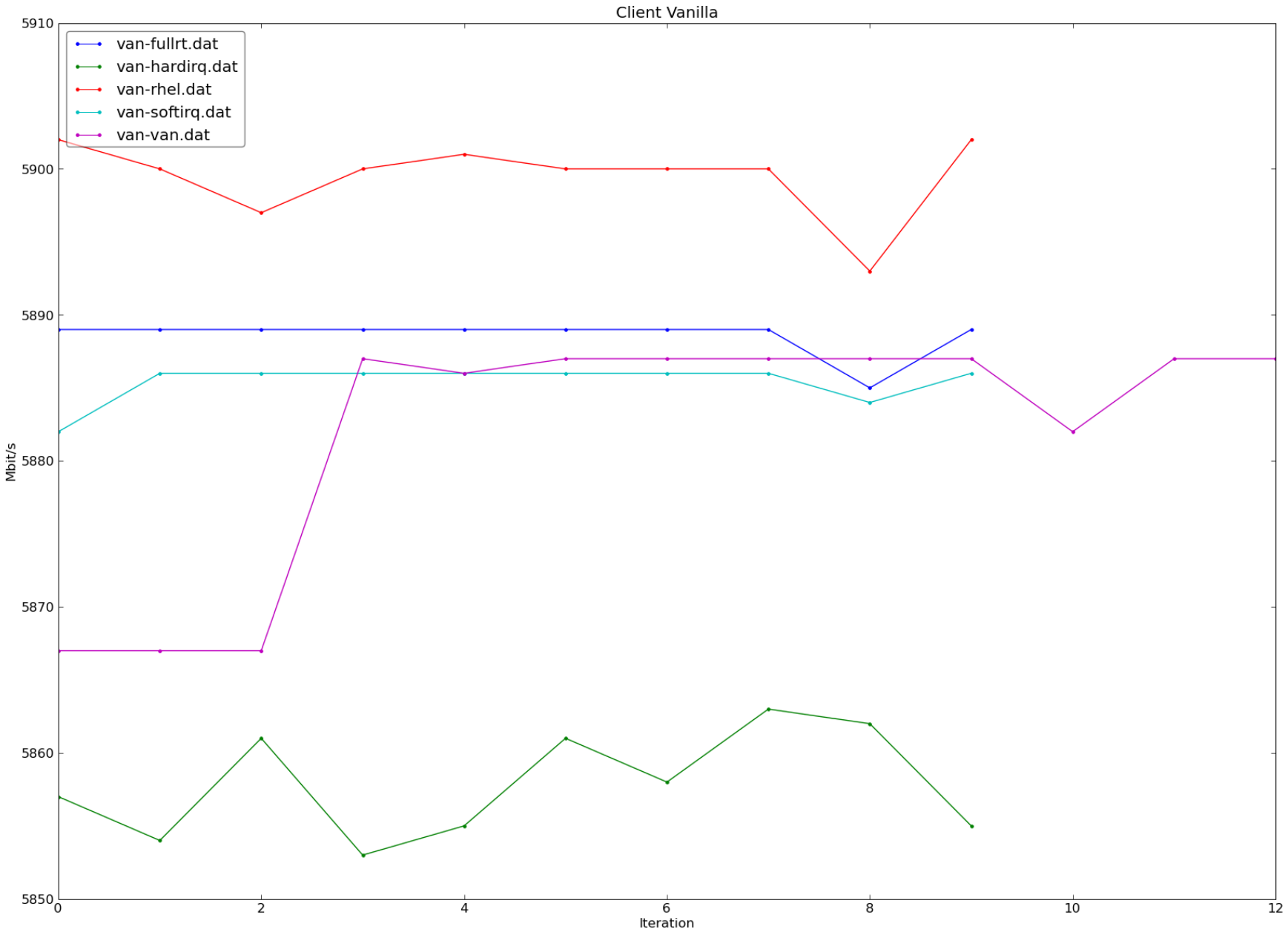
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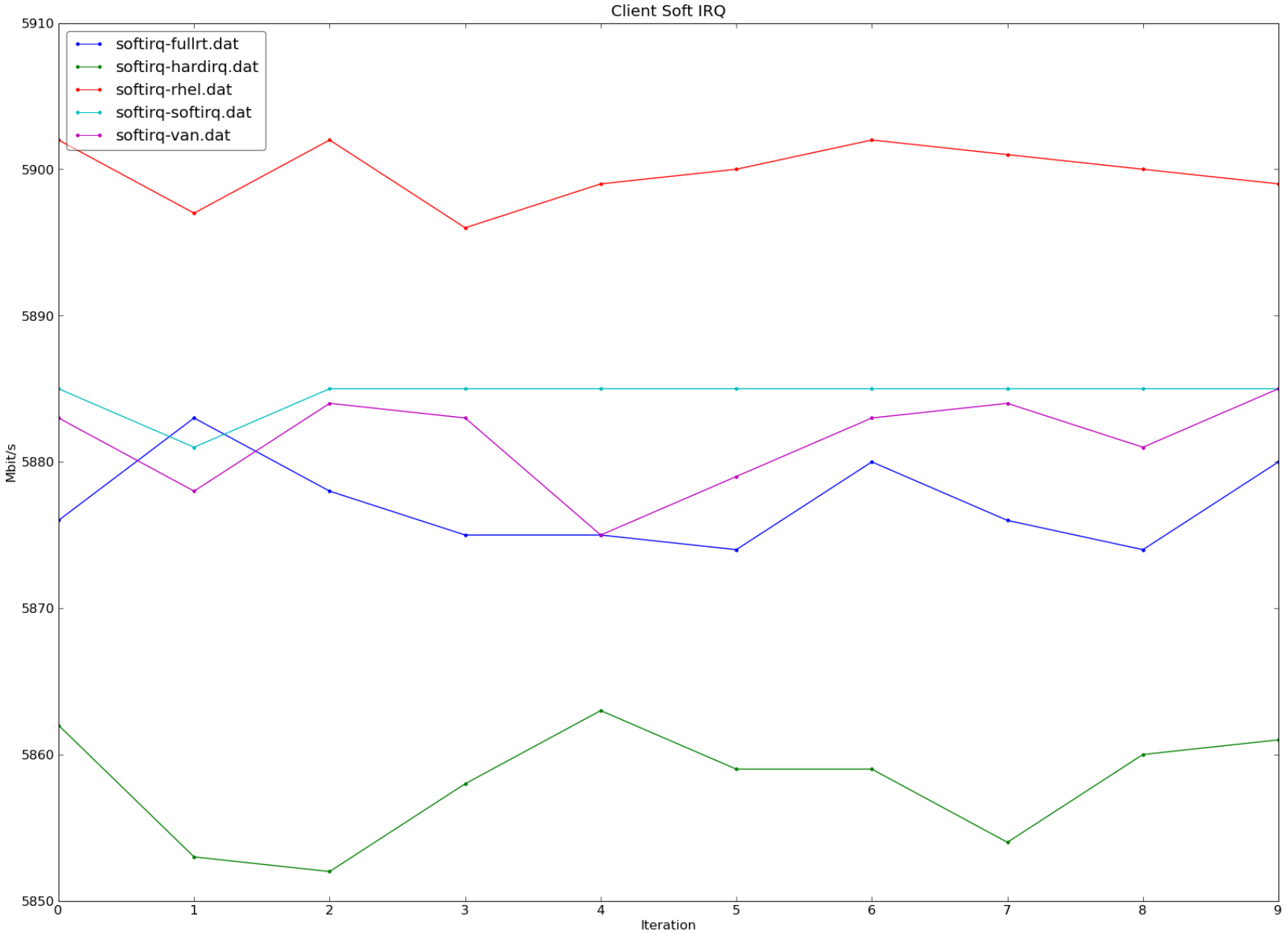
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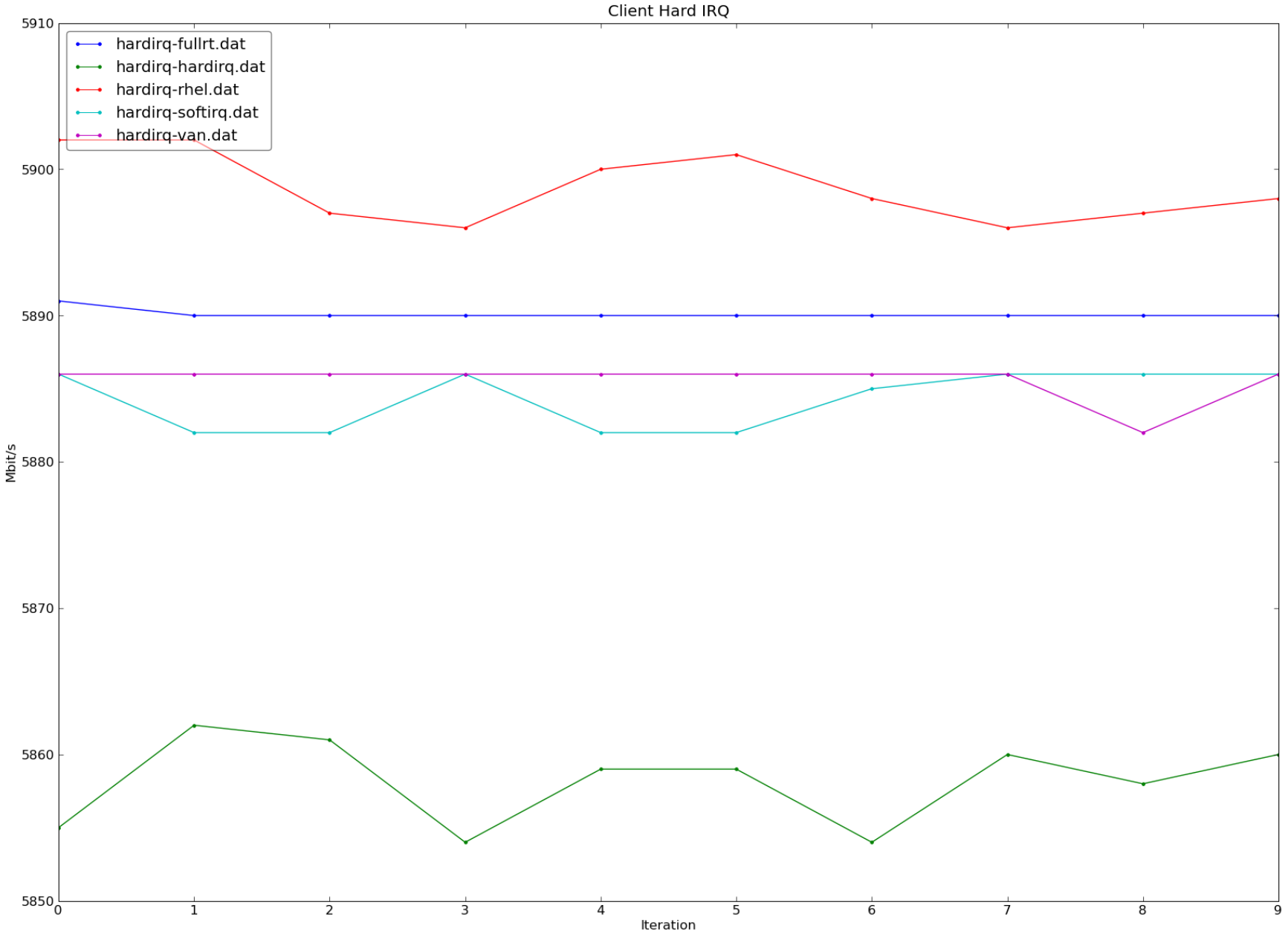
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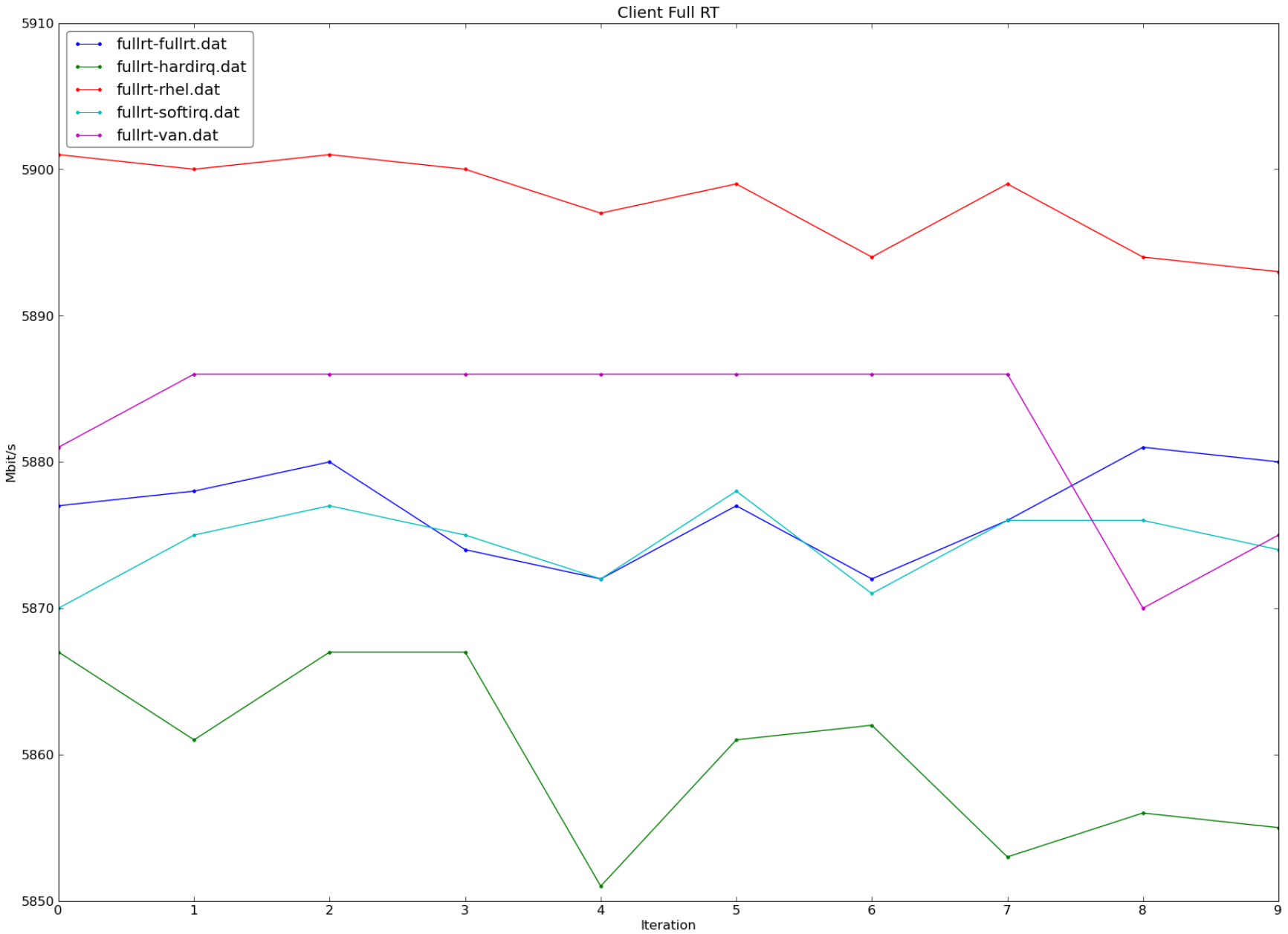
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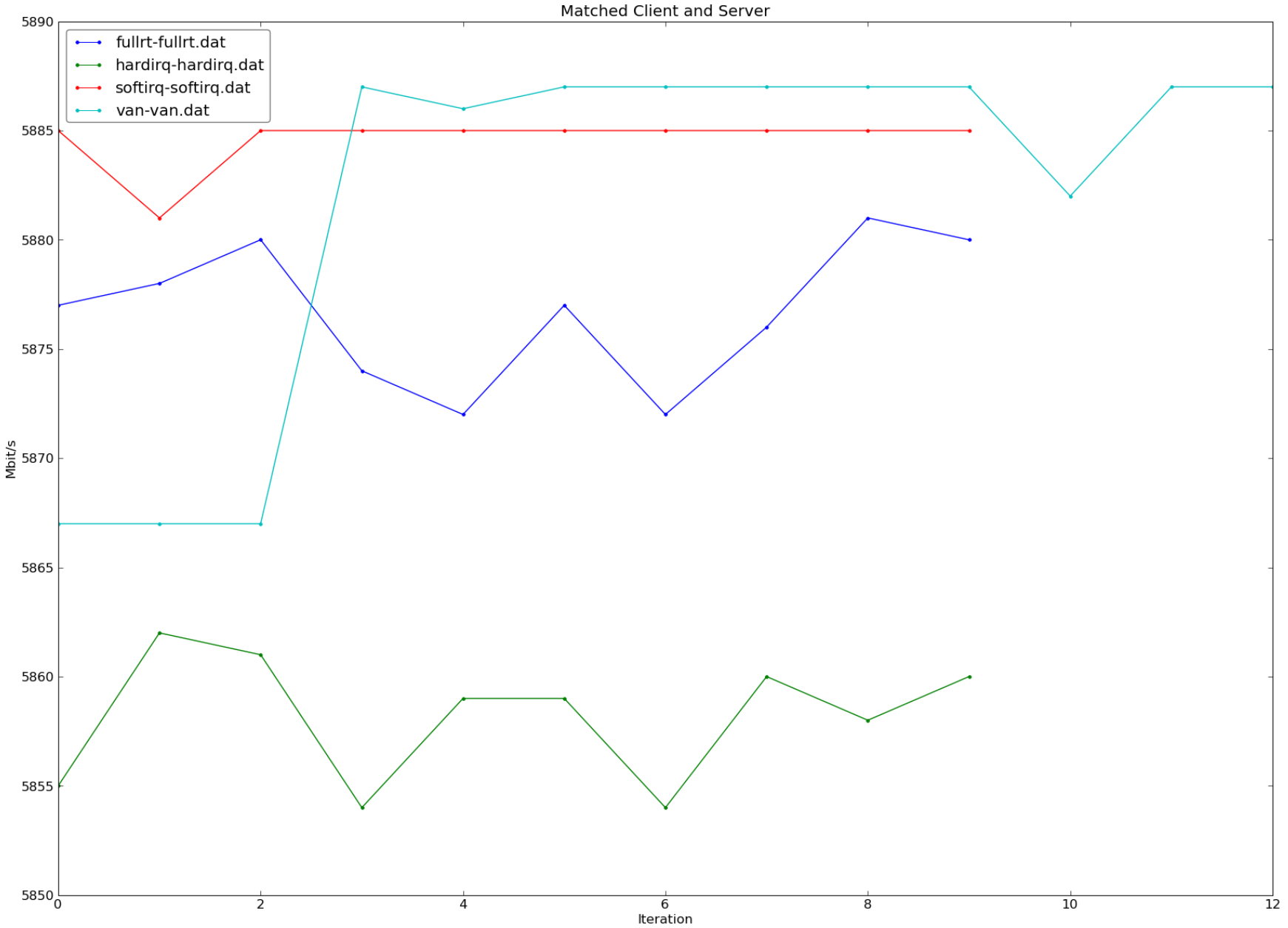
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Cons

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- Redesign of network infrastructure

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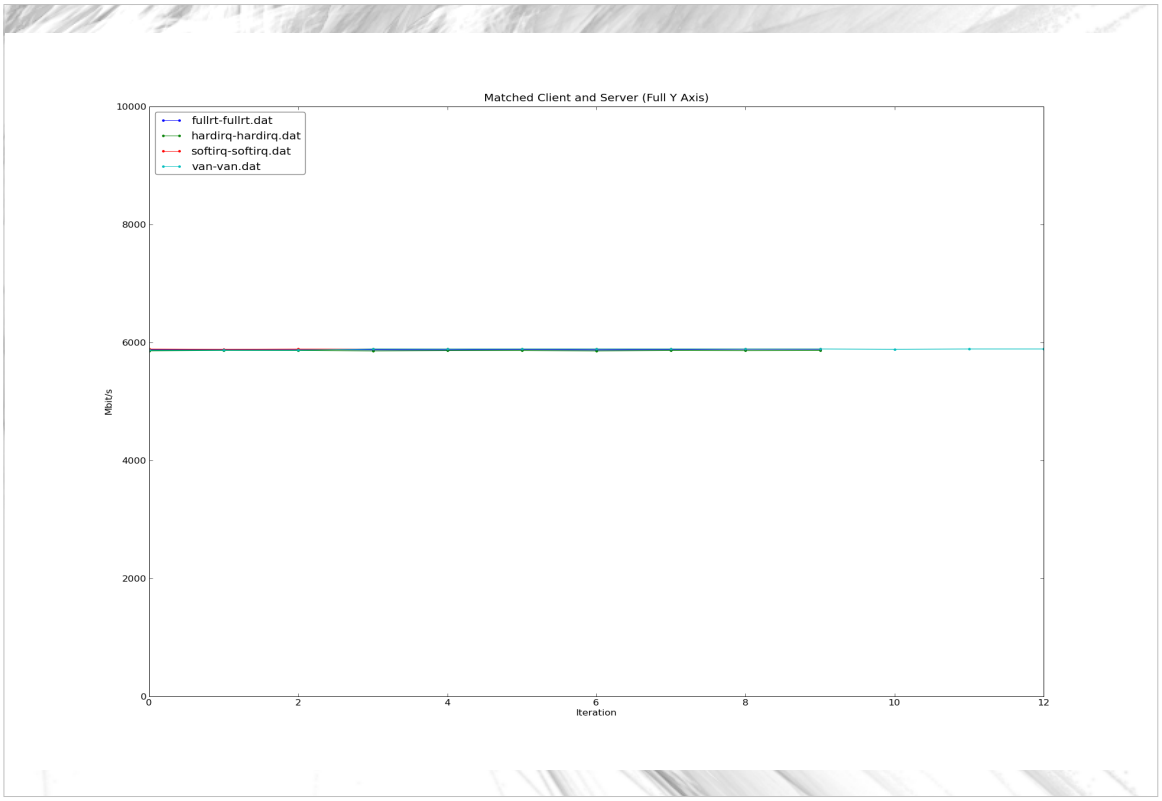
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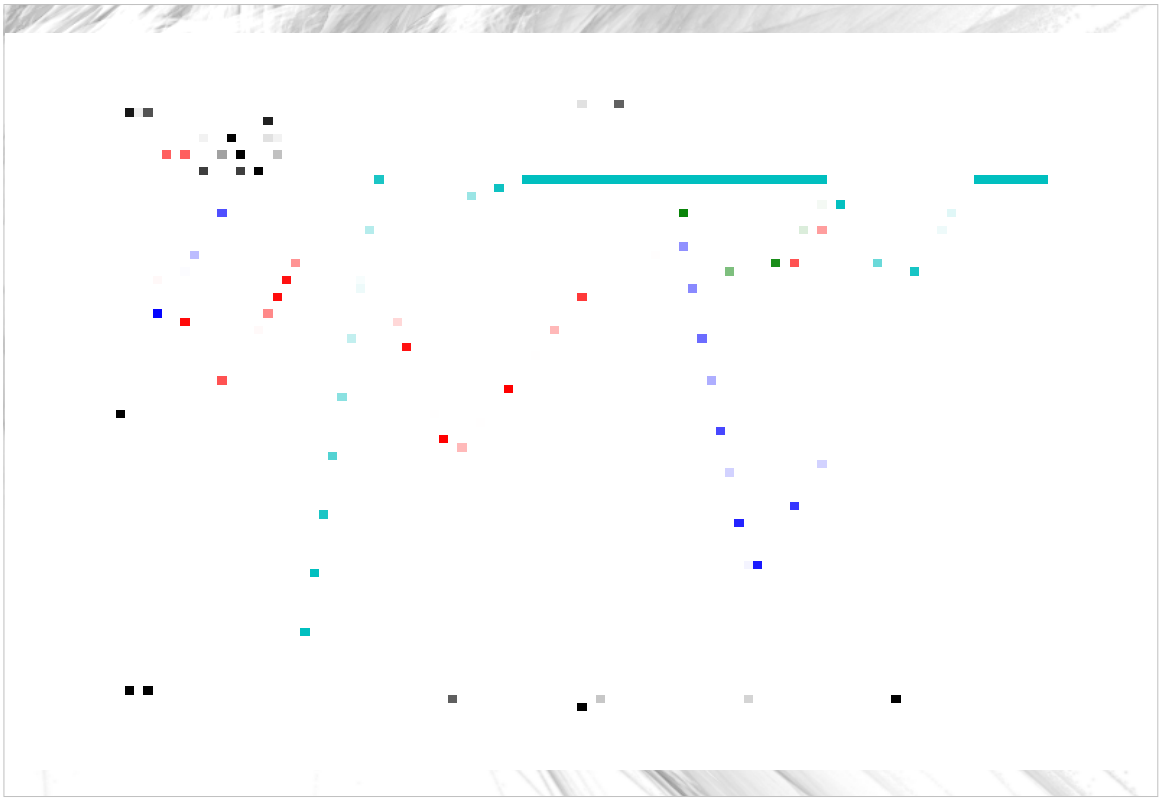

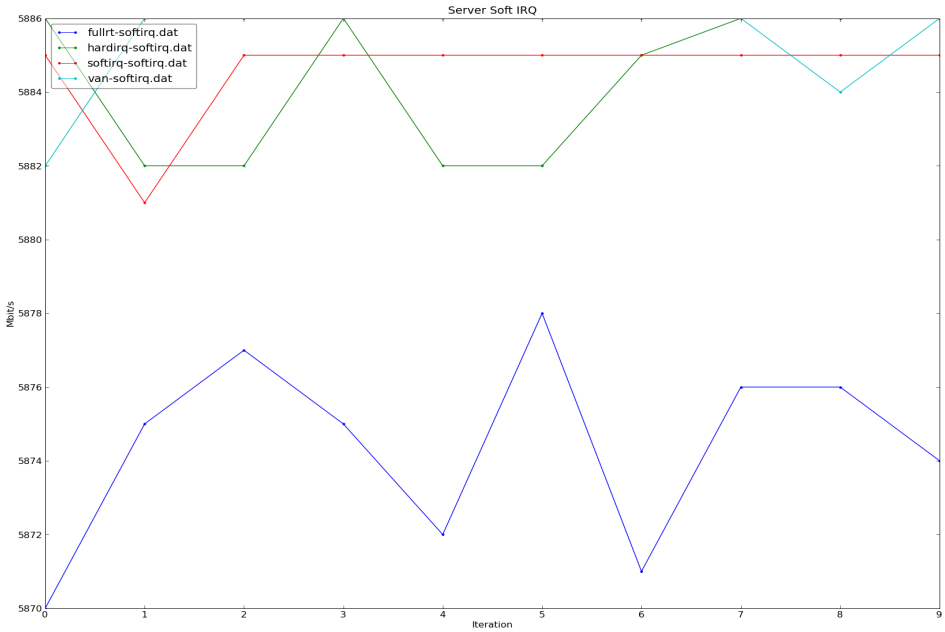
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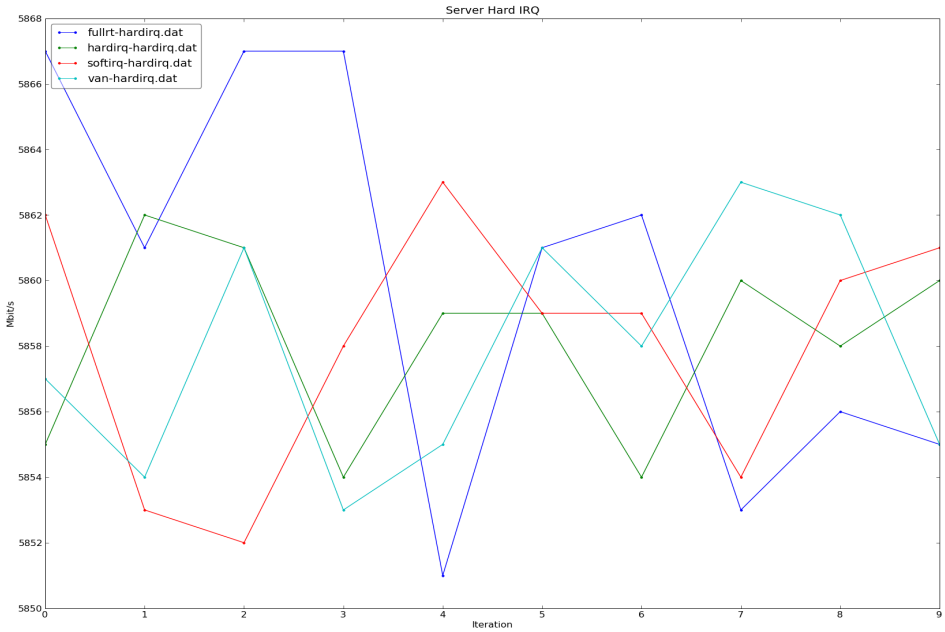
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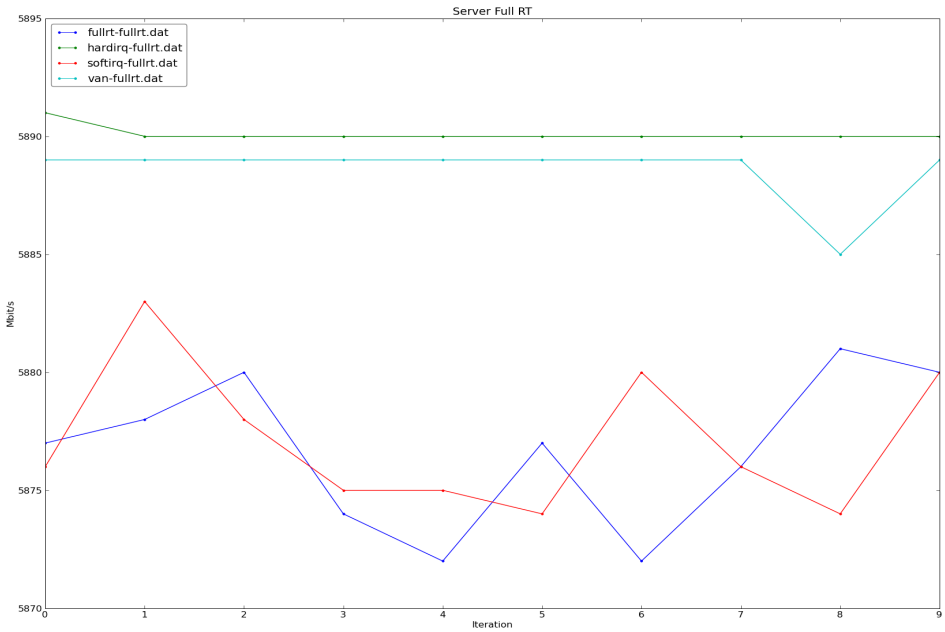
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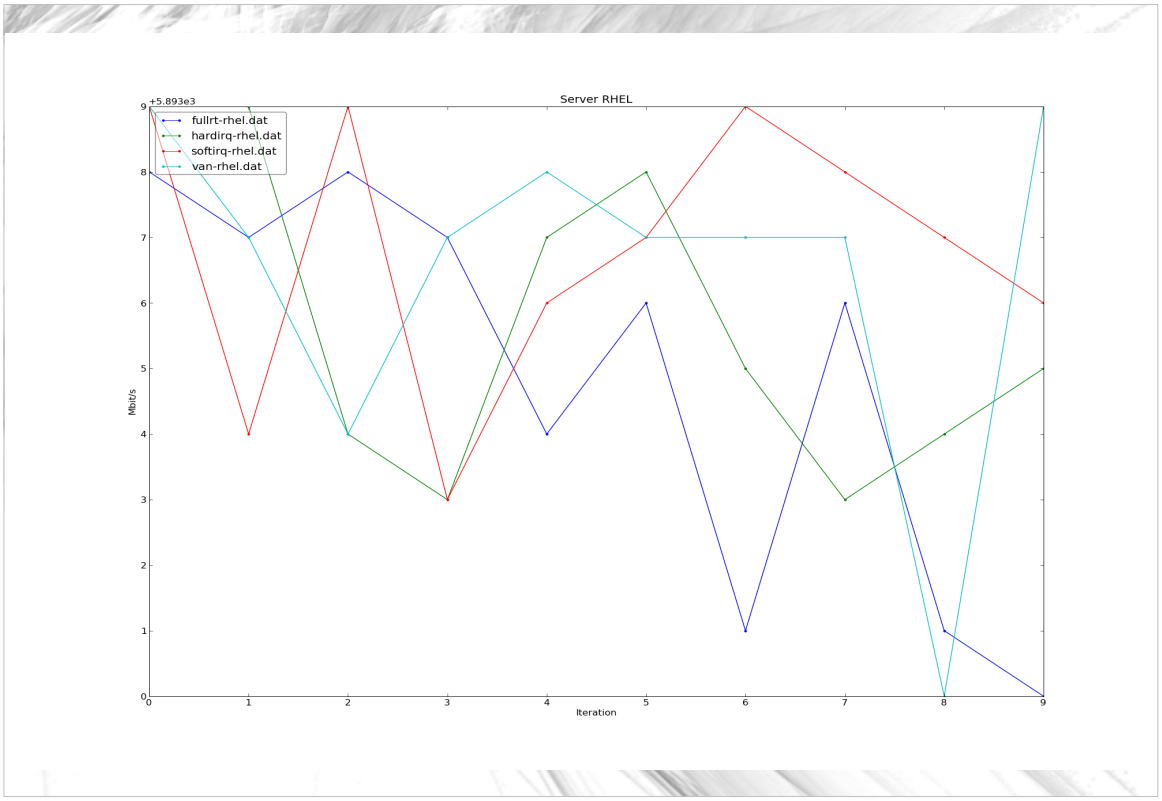
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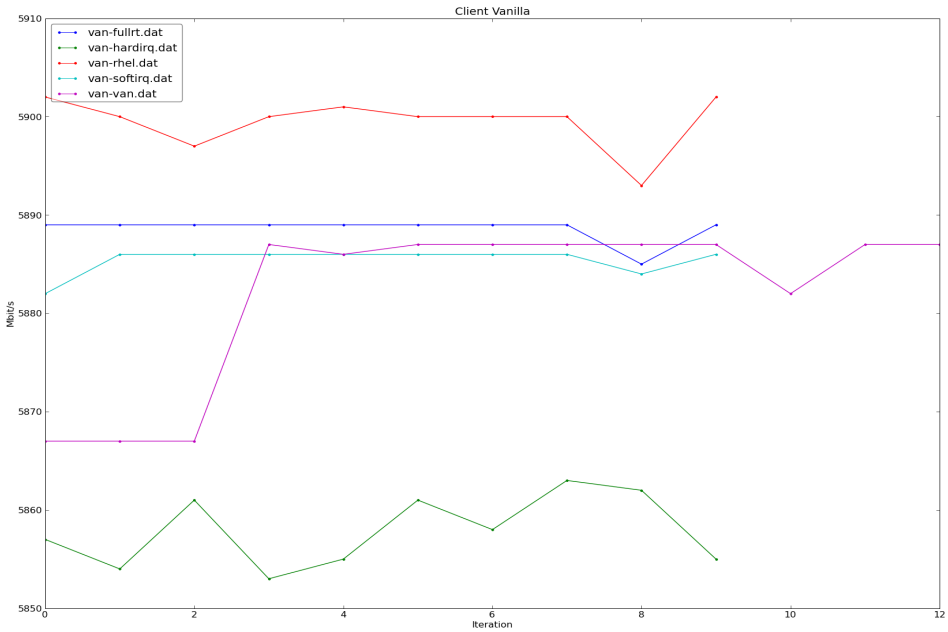
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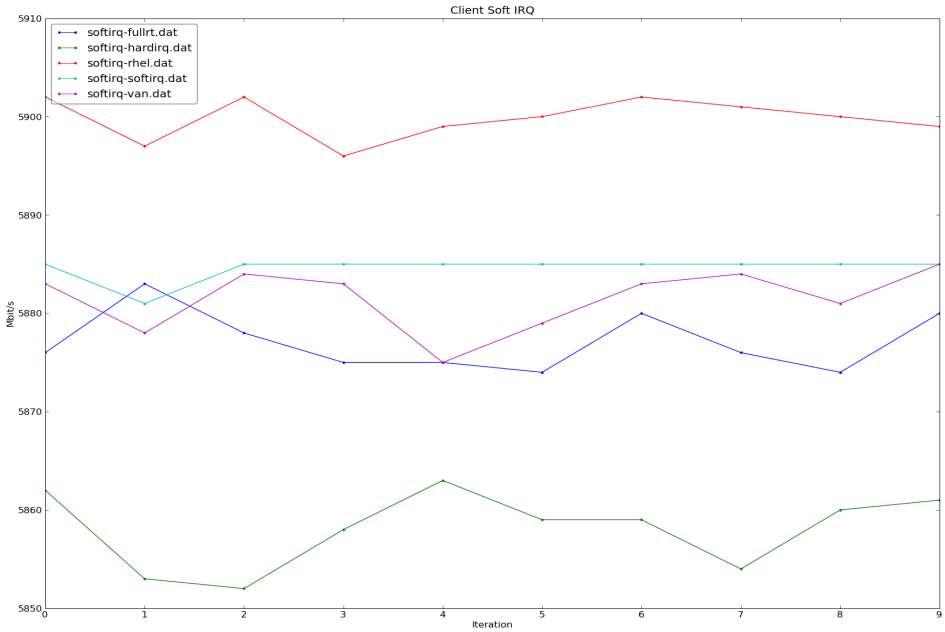
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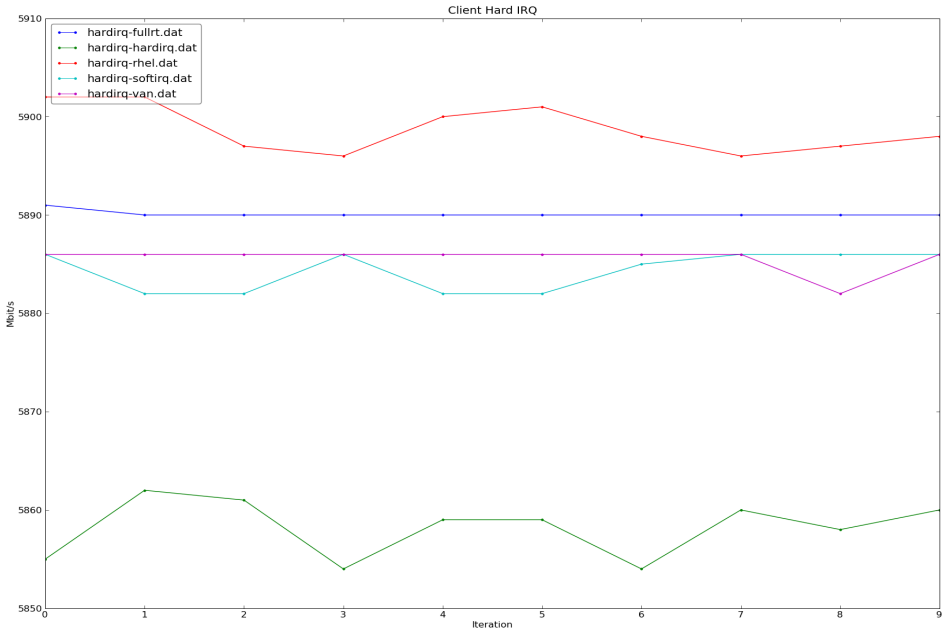
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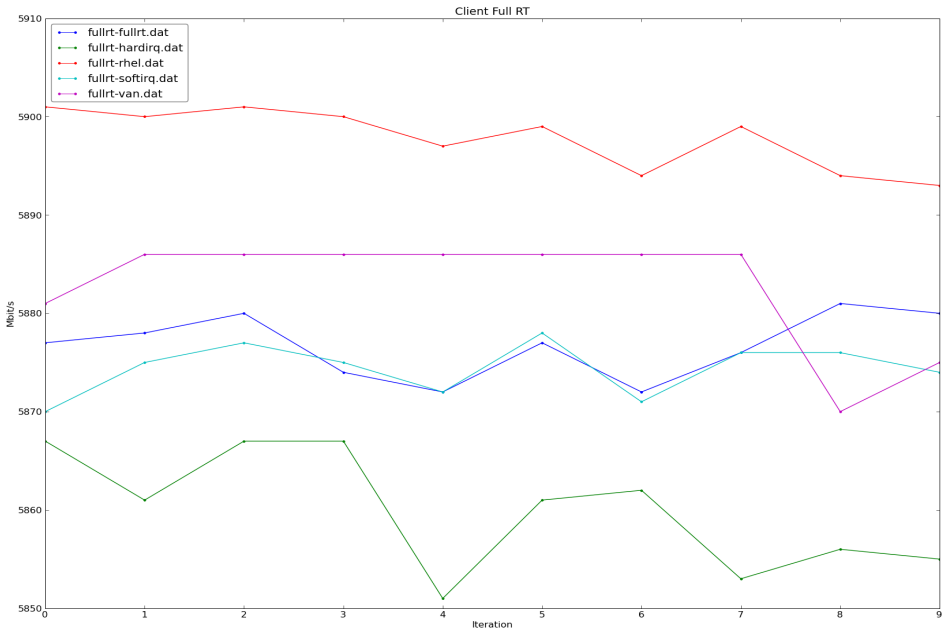
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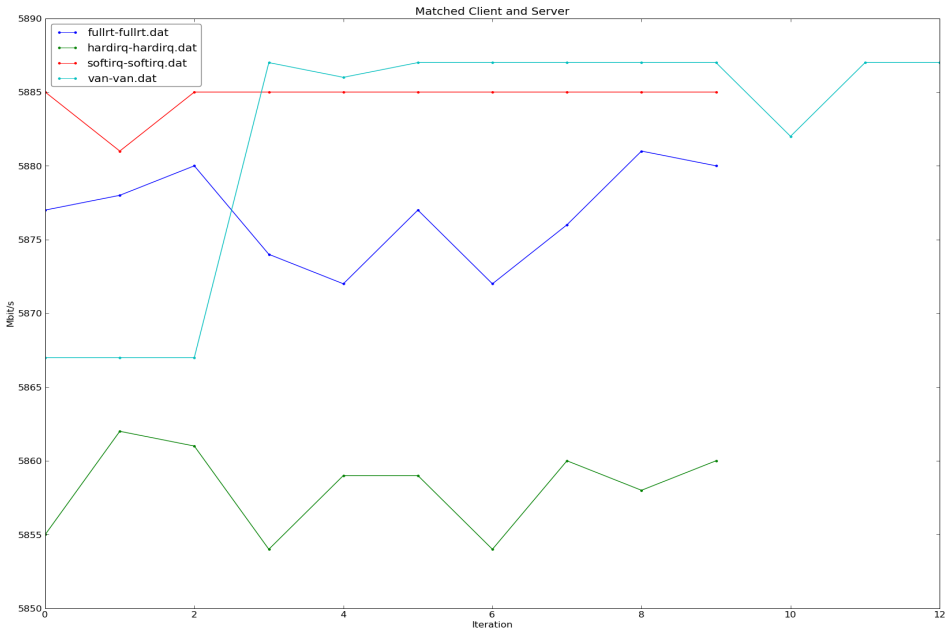
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