

Why Speed Matters

The most common time a user notices speed, or the lack of it, is when loading a page during browsing. If pages or links are slow to load, patience wears thin. If pages display quickly, it's just plain gratifying. Perception of one's entire Internet experience rests heavily on performance.

The Transactional Nature of the Internet

To understand why Island is so much faster than other routers, we need to take a minute to talk transactions and packets, and how they affect performance. While factors like how fast the pipe is from your provider, how fast your PCs, consoles, or phones are, or how well the software programs you use are written, one large factor affects performance more than any other: the fact that the Internet has become extremely transactional.

What does that mean? It used to be that you requested a site page, and you received practically all the content back in very few exchanges of information with the source server. Today when you request a page, like a weather site for example, hundreds or even thousands of little transactions occur as ads are loaded, dynamic maps, animations, clocks, temperatures, and more are continually updated in near real-time. Every transaction, big or small, requires roughly the same amount of overhead. More frequent loading of smaller bits of information coming from a multitude of servers places an exponentially bigger load on performance than a one-time load of a large cohesive chunk of information. Then picture many users in one household actively hitting sites like weather or shopping or news simultaneously, or playing games...sometimes using multiple Internet-connected devices at once. Add to that all the devices like cameras, thermostats, and sprinkler systems now checking in for updates, and all the TVs and other devices streaming video. Result: transaction avalanche.

Why Island Is So Fast

How Island addresses the performance degradation that is commonly caused by this avalanche of small transactions is exactly what makes Island a performance leader. For starters, enterprise-grade hardware—processor and memory components—have been selected for this product. But here is the most important factor in Island that maximizes performance: **Island's engineers have written its routing software from scratch. Island does not use standard open source, generalized software that practically all residential routers on the market use.** That standardized software takes more than 400,000 lines of code, tons of which support outdated mechanisms. Instead, Island's developers, with decades of network coding experience and award-winning products under their belts, have created an architecture unique to Island that uses roughly a tenth of the code used by open source software and optimizes handling of all packets, but especially small packets.

Bottom line: Island's software is simply way more efficient, giving Island a whopping performance advantage to handle the extremely transactional nature of the Internet today.

Island Performance

Maximum Throughput:
3.7 Gbps

Maximum Packet Rate:
2,000,000 pps

Maximum Connections per Second:
Over TCP: 140,000 cps
Over HTTP: 88,000 cps
Over HTTPS: 44,000 cps

iperf3 TCP Throughput:
950 Mbps