Dell PowerEdge R750 server featuring a modern 100Gb Broadcom 57508 NIC achieved higher bandwidth in iPerf tests

Compared to enabling the same bandwidth capability using four 25Gb NICs

November 2022

About our testing

We used the synthetic iPerf test tool to compare two solutions:

- A Dell™ PowerEdge™ R750 server with Broadcom® 57508™ Dual Port 100Gb network interface card
- The same PowerEdge R750 server with four 25Gb NICs (Note: We used two dual-port NICs to achieve our 4 x 25Gb NIC configuration.)

We found that the PowerEdge R750 with Broadcom 57508 NIC offered stronger and more consistent bandwidth performance across all numbers of instances (TCP streams) we tested. For example, at four TCP streams, the Broadcom 57508 solution achieved an average of 99.1 Gb/s during the test, while the four-NIC solution achieved an average of just 65.6 Gb/s.

These results show the potential benefits of selecting a server with a single 100Gb NIC to better optimize bandwidth performance.

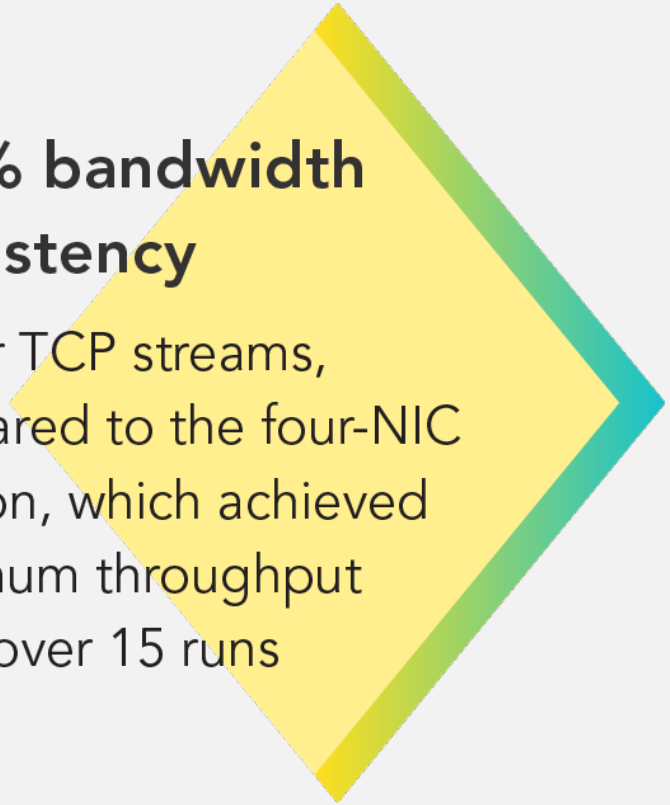
About PT

Principled Technologies, Inc. (PT) is the leading provider of third-party competitive marketing services for technology.

Our hands-on testing mirrors the way real users work with your product and delivers proof points you and they can count on, while our award-winning competitive marketing contextualizes those claims.

Learn more at www.principledtechnologies.com.

Key claims



with a Dell PowerEdge R750 server with a Broadcom 57508 Dual Port 100Gb network interface card versus the same PowerEdge R750 server with four 25Gb NICs

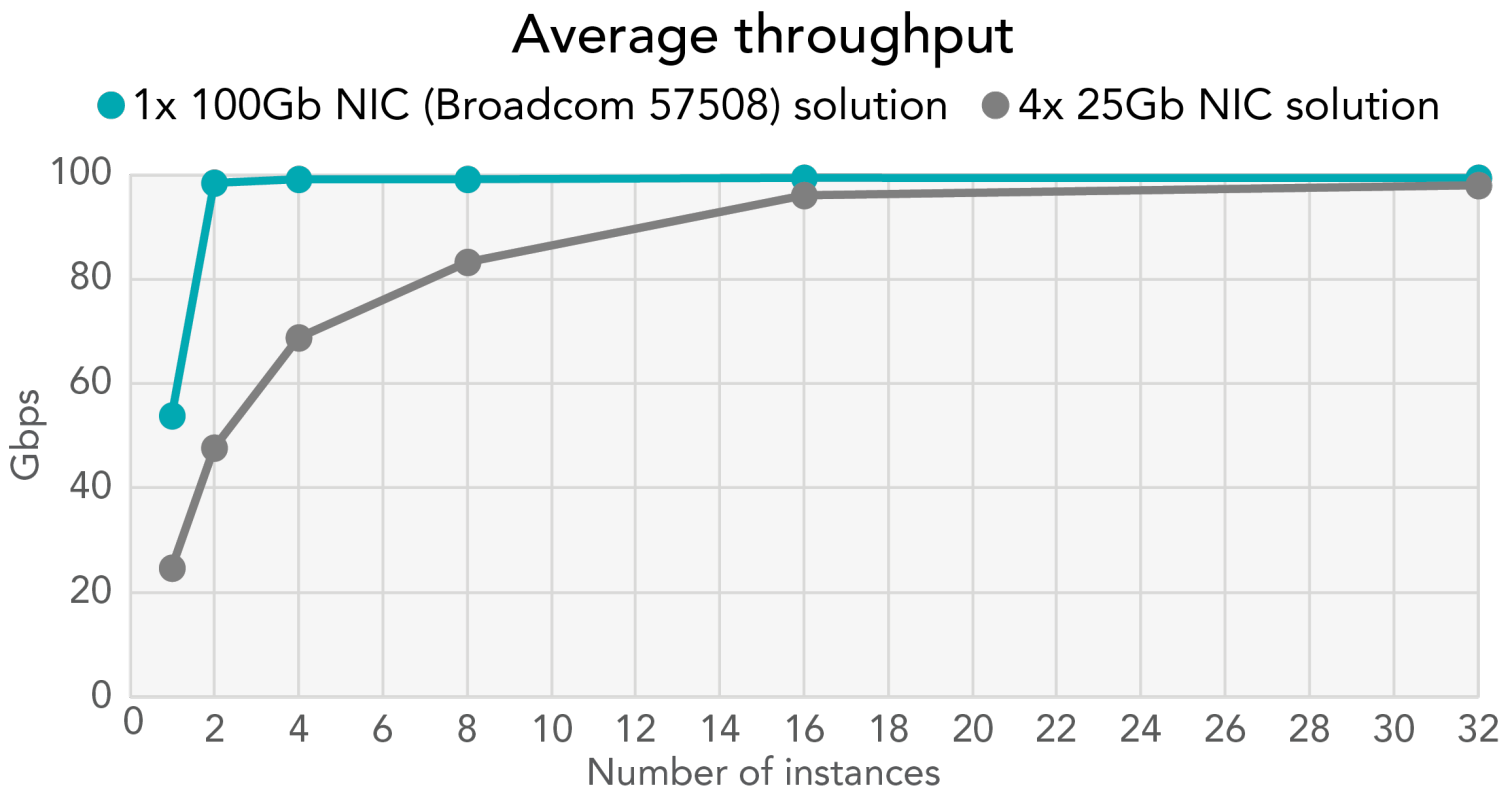
Up to 2.3x the Gbps

at two instances, over an average of 15 runs

Benefits

- Maximize bandwidth usage for stronger application performance

Detailed test results



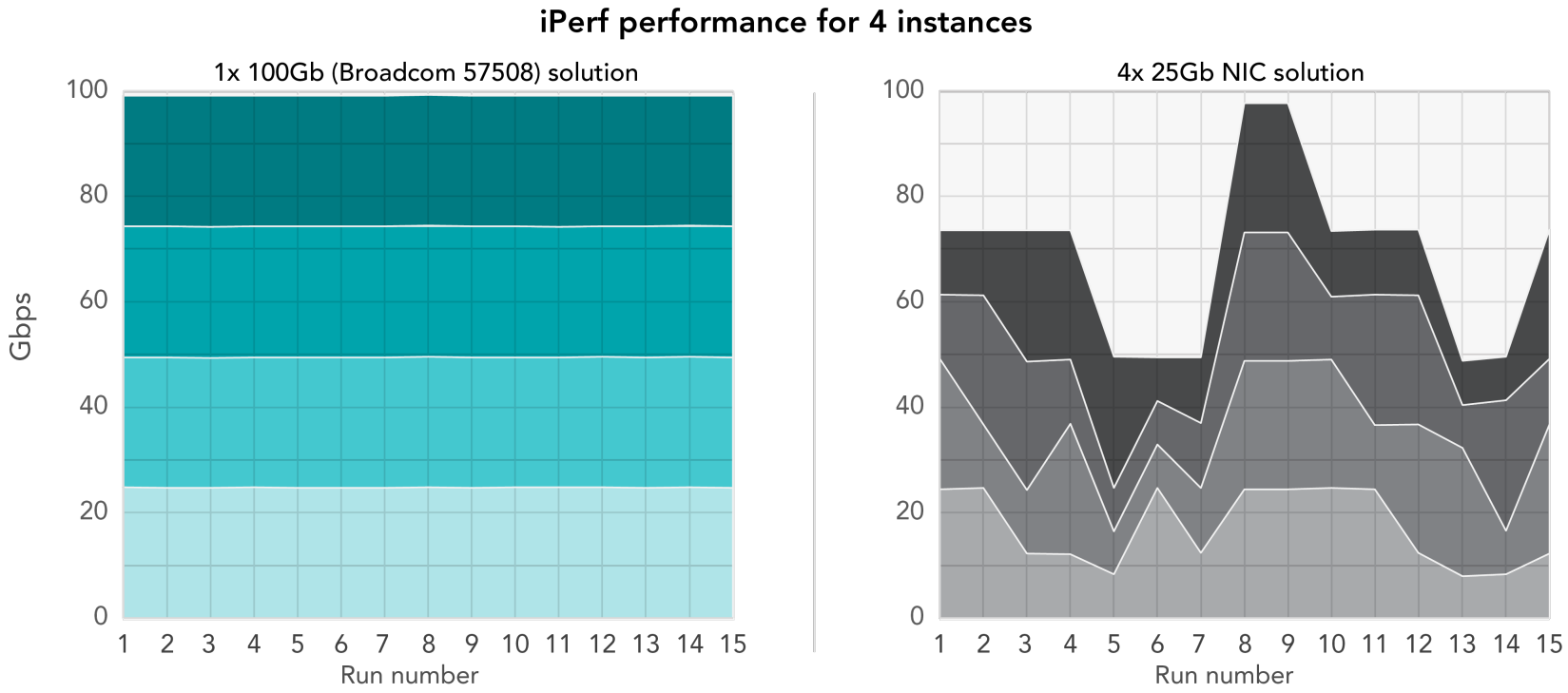
100% bandwidth consistency

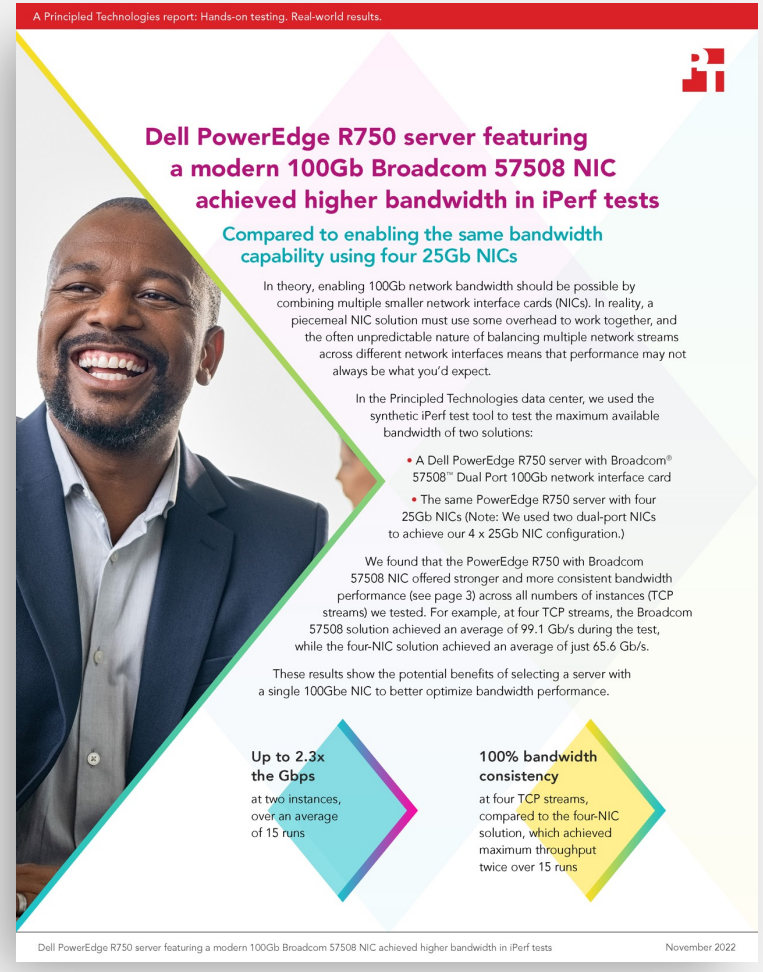
at four TCP streams, compared to the four-NIC solution, which achieved maximum throughput twice over 15 runs

Benefits

- Consistent, fast performance for applications

Detailed test results





A Principled Technologies report: Hands-on testing. Real-world results.

Dell PowerEdge R750 server featuring a modern 100Gb Broadcom 57508 NIC achieved higher bandwidth in iPerf tests

Compared to enabling the same bandwidth capability using four 25Gb NICs

In theory, enabling 100Gb network bandwidth should be possible by combining multiple smaller network interface cards (NICs). In reality, a piecemeal NIC solution must use some overhead to work together, and the often unpredictable nature of balancing multiple network streams across different network interfaces means that performance may not always be what you'd expect.

In the Principled Technologies data center, we used the synthetic iPerf test tool to test the maximum available bandwidth of two solutions:

- A Dell PowerEdge R750 server with Broadcom® 57508™ Dual Port 100Gb network interface card
- The same PowerEdge R750 server with four 25Gb NICs (Note: We used two dual-port NICs to achieve our 4 x 25Gb NIC configuration.)

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These results show the potential benefits of selecting a server with a single 100Gbe NIC to better optimize bandwidth performance.

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