



Increasing ROI with AMD **THREADRIPPER 3**



THE PROBLEM

A large, well known streaming hardware company was spending too much valuable developer time waiting for complex code to compile on their current workstation desktops. Would a multi-core workstation save developer time and enough time to justify the expense via ROI?

THE SOLUTION

Company set out to run benchmarking tests on two Velocity Micro ProMagix HD80A desktops – one 32 core/64 thread AMD Threadripper 3970X configuration and one 64 core/128 thread 3990X configuration. Desktops were provided via Velocity’s demo program and benchmarked extensively for two weeks versus Company’s current PC hardware.

The goal: find if their applications are scalable to high core count processing and if so, whether the potential ROI justifies the capex.



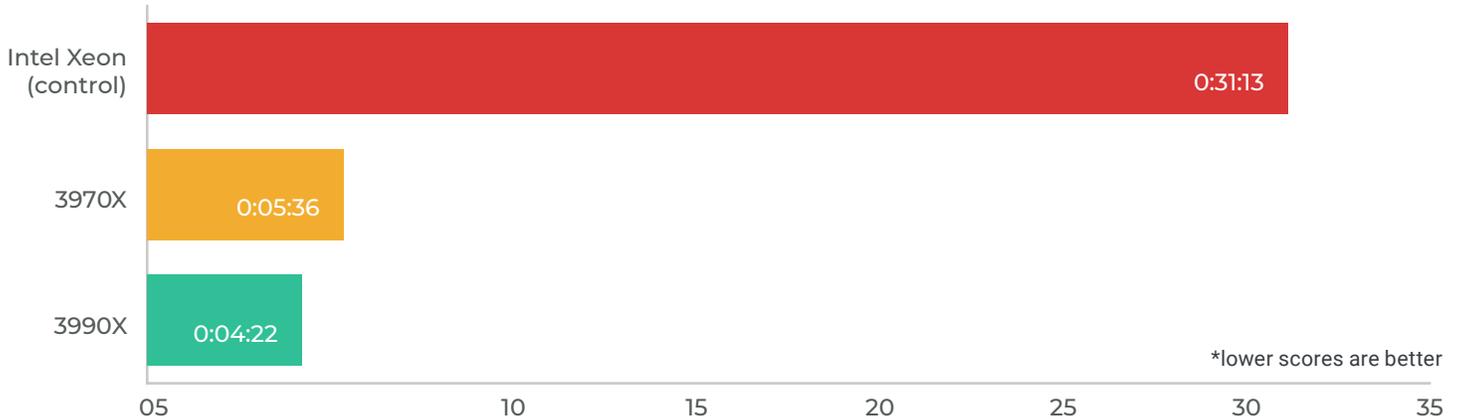
AMD THREADRIPPER 3

Powered by AMD’s new 7nm “Zen 2” architecture, 3rd gen Threadripper processors take multicore to a whole new level with 24, 32, and 64 core options. Additional features include:

- › Up to an unprecedented 88 total PCIe® 4.0 lanes
- › Up to 288MB of combined cache for rapid access to large data sets
- › Quad-channel DDR4 with support for ECC for reliable throughput

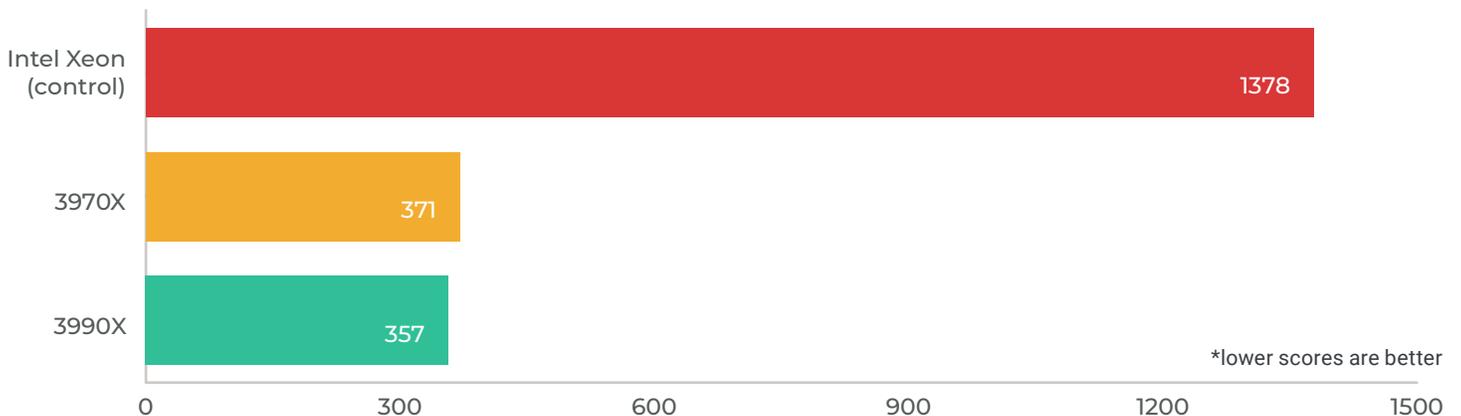
THE BENCHMARKS

Company saw compiling time reduce from 31:13 to 5:36 with the Threadripper 3970X and 4:22 with the 3990X – a **stunning 457% and 615% reduction** respectively.



GNU COMPILER COLLECTION (GCC)

Likewise, Company saw similar results when benchmarking GCC with scores nearly 4x over current PC hardware.





RESULTS - PROJECTING ROI

	3990X	3970X	Base System
Native Compile Time	0:04:22	0:05:36	0:31:13
Estimated System Cost	\$8,844	\$5,284	\$1,500
Incremental Cost	\$7,344	\$3,784	\$0
Relative Speed %	715%	558%	100%
Estimated Hours Saved / Year	112	107	0
Developer Salary Saved / Year	\$8,390	\$8,006	\$0
Overall Benefit on Incremental Cost	\$1,046	\$4,222	\$0

TEST SYSTEM SPECS

	Corporate Xeon	HD80A with 3970X	HD80A with 3990X
CPU	Intel Xeon E5-1650, 6 Core/12 Thread @ 3.5/3.8GH	AMD Threadripper 3970X, 32 Core/64 Thread @ 3.7GHz/4.5GHz	AMD Threadripper 3990X, 64 Core/128 Thread @ 2.9GHz/4.3GHz
RAM	32GB	64GB	128GB
Disk	7200rpm SATA	Seagate PCIe 4.0	Seagate PCIe 4.0
OS	CentOS 7	CentOS 7	CentOS 7



THANKS FOR READING

**For more information on the
ProMagix HD80A, visit VelocityMicro.com
or call 804-419-0900.**



©2020 Velocity Micro and the Velocity Micro logo are trademarks of Velocity Holdings, LLC.
All other trademarks are the property of their respective owners and are hereby recognized.