AMD hosts a special "Path to Zen" event in San Francisco to provide further details on the upcoming Zen processor lineup-- one the company says should launch in desktop form early next year.

The result of 4 years of work, Zen processors are designed to provide high performance in systems as varied as fanless 2-in-1s, embedded systems, high-performance computing and datacentres. CEO Dr. Lisa Su says "the performance and efficiency of our Zen core showcases AMD at its best," and the CPUs are able to deliver "a 40% generational improvement in instructions per clock."

The chips are built using a 14nm FinFET process and feature Simultaneous Multithreading (SMT), the AMD take on Intel's HyperThreading allowing Zen cores to run multiple threads simultaneously. Further improvements come in an instruction scheduler featuring an 8MB L3 cache together with a larger L2 cache to push 5x the bandwidth to the core than the previous Excavator design.

The first Zen-based product to hit the market is Summit Ridge-- an 8-core, 16-thread desktop CPU running on the AM4 platform with DDR4 RAM and "next-gen I/O" support. AMD pitted a Summit Ridge chip against an equivalent Intel Core i7-6900K CPU clocked at 3GHz, and the AMD offering finished rendering a Blender rendering benchmark half-a-second faster than the Intel CPU.

On the server side Zen will arrive as the 32-core, 64-thread "Naples," while embedded computers should see an appropriate Zen-based chip soon enough.

Summit Ridge will hit the market on Q1 2017, followed by Naples on Q2 2017. A laptop version of Summit Ridge should be available sometime during H2 2017.

Go AMD Zen