AMD and Lenovo have created the world's first 64-core workstation

Threadripper Pro is the second new workstation platform launched recently – and this one's definitely coming this year.

New workstation platforms are like the proverbial London buses it seems – you wait years for a one and then two arrive in close proximity to each other.

I'm using 'close proximity' here to mean within a month of each other. At the end of June, Apple announced it was intending to ditch Intel in favour of developing its own ARM-based chips, which will eventually be used in its high-end workstation, the Mac Pro.

Lenovo isn't doing anything as dramatic as cutting ties with Intel, but it is the first vendor to create a workstation based on AMD's new Threadripper Pro platform – the ThinkStation P620 – which will be exclusive to Lenovo for "a while" says the company.

So alongside the debut of a powerful new workstation, the news here is that for the first time in a long time, there is competition between rival workstation-class platforms. And as we've seen over many years across both creative hardware and software, competition provokes innovation. From the DTP battles of 20 years ago (Quark vs InDesign) through video editing (Avid vs Premiere Pro vs Final Cut Pro) to thin-and-light laptops (Dell XPS/Precision vs Apple's MacBook Pro) – a single dominant platform leads to stagnation, which benefits no-one.

The workstation market hasn't been completely without

competition, but Intel’s Xeon platform has mainly been cannibalised by its consumer chips, or by AMD’s consumer version of Threadripper – which is also available in a 64-core version, but not through Dell, HP or Lenovo. Now, hopefully, we see the beginning of a new workstation-focussed performance race.

The ThinkStation P620 is aimed at visual effects and 3D artists with the highest performance demands – Lenovo says that real-time 8K video editing will be possible on higher-end models. Potential customers may be wary of buying into a new platform, but the platform does appear to offer a huge amount of performance for a relatively low cost compared to Intel’s Xeon. Lenovo says that the P620 will be significantly less expensive than a dual-processor Intel Xeon system, which tops

out at 56 cores across both chips to the Threadripper Pro's max of 64.

However, Lenovo's only supplying pricing for a base model at this point – and US pricing only. A base P620 will cost US$4,599 (around £3,665). This includes an AMD Threadripper Pro W3945W with 12 cores running at 4GB, 16GB RAM, a 256GB M.2 SSD, an NVIDIA Quadro P620 GPU, keyboard and mouse, Windows 10 Pro and a 3 year on-site warranty.

You can upgrade this with a 16, 32 and 64-core processors. The base chip speeds drop as more cores are added – 3.9, 3.5 and 2.7GHz – but the max frequency remains at 4.2 or 4.3GHz across the board.

The P620 supports up to 1TB of ECC RAM, with eight lanes (to the consumer Threadripper platform's four lanes). There are 128GB PCIe 4.0 lanes. Lenovo says that PCIe 4.0 m.2 drives offer double the throughput of systems with third-generation drives. Up to 20TB of storage is possible – and the P620 can hold up to two Nvidia RTX 8000 or four RTX 4000 graphics cards.

Workstations like the P620 rely on qualifications from software vendors. So far the only vendors qualifying the P620 are Adobe for Creative Cloud, Autodesk for 3ds max and Maya, and Avid for Media Composer – though this list is expected to grow.

We're expecting a review unit in the near future, and I'm excited to see how it performs – and, perhaps more importantly, what a future that pits AMD, Apple and Intel against each other at the high-end looks like.

https://www.digitalartsonline.co.uk/news/creative-hardware/amd-lenovo-have-created-worlds-first-64-core-workstation/