Qualcomm's Nuvia acquisition points to ARM-powered data centers

Article

The news: Qualcomm is returning to the server chip market through its 2021 acquisition of chip design company **Nuvia**, per Ars Technica.

Why it's worth watching: While PC and smartphone chip demand has slowed down, there's a mounting need for simpler chips that run network switches and routers in data centers. Companies like **Micron** and **Cisco** have been waiting on chip supply to meet demand.

Pivot to servers: Prior to the **$1.4 billion** acquisition by Qualcomm, **Nuvia's focus was on developing ARM-based data center chips**. Qualcomm initially wanted Nuvia's team to bolster efforts to get ARM processors into laptops and smartphones but has since shifted toward developing powerful yet efficient chips to power servers in data centers.

- **Nvidia, Intel**, and other PC chip manufacturers reported sharp declines in demand. This coincides with a **5.1% YoY** drop in PC sales in Q1 2022. **Sales have considerably slowed down after two years of double digit gains.**

- **Cisco forecasts the shortages of non-PC chips will persist until July 2023. Scott Herren**, Cisco's CFO, says his hope is that chipmakers make the necessary adjustments to address the shortage.

- Qualcomm's CEO **Cristiano Amon** wants to transform the company into a broader provider of semiconductors serving automotive, IoT, and the PC and server market.

- According to a new report from Bloomberg, Nuvia's original goal of building server chips will be allowed to continue under Qualcomm's supervision.

- **Amazon Web Services (AWS)** is among the first companies that "agreed to take a look at Qualcomm's offerings."

- Securing orders from cloud providers will likely follow once Qualcomm can prove it can scale and deliver its chips.

ARM chips can serve data centers: Apple's Silicon has shown that smaller nanometer ARM-based system-on-a-chip designs like its M1 and M2 processors can match or surpass the performance of traditional CPUs from Intel or **AMD**.

- Nuvia claims that its design can provide **50% to 100% higher peak performance** than competing products using less power.

- ARM-designed server chips would have lower power consumption and also generate far less heat, requiring less cooling. They would also be small enough to fill up relatively compact data centers.

- Qualcomm, which has been diversifying beyond mobile and PC, has **increased sales by 37% YoY in Q2**, with its automotive chip sales growing 38% and its connected devices growing 31%, per SiliconAngle.

  The opportunity: Depending on how quickly Qualcomm can scale development and production of server chips, it could very well lead an industry-wide pivot to ARM-based server solutions.

- Chip diversification could forestall compounded delays and improve overall cloud adoption.

- Traditional server chip manufacturers like Intel and AMD could be forced to compete in efficient ARM-based SOCs, but these competitors are years behind and could cede market share to Qualcomm.

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