Intel stockpiling 10nm chips, warns that 14nm shortages will continue

Intel Skylake die shot, built using the 14nm process.

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In its earnings conference call, Intel has warned that chip shortages are set to continue into the third quarter of the year, However, the company has also said that its 10nm manufacturing process is improving faster than anticipated and that it will be able to sell more 10nm chips this year than previously predicted.

Intel’s troubled migration to its 10nm manufacturing process has had many consequences in the wider computing industry. Gartner and IDC both say that some of the shrinkage of the PC market is due to a lack of processors, and companies such as Microsoft have stated that their financial performance would have been better were it not for the shortages. Intel was expected to be building a wide range of mainstream processors on its 10nm at this point, reducing the pressure on its 14nm facilities. The delay to 10nm has prevented this.

So great is the demand for 14nm manufacturing capacity that in some areas the company has even had to go backwards. Most 300-series chipsets, introduced with Coffee Lake processors, are built on 14nm. In December last year, Intel released a new

chipset, B365, aimed at mainstream consumer and corporate desktops. This chipset is built on the previous generation 22nm process to free up 14nm capacity. It’s also believed that the company has issued a 22nm version of the H310 chipset, called H310C. These moves both enable the company to use its limited 14nm manufacturing capacity for chips with a higher margin than these chipsets. The company has also invested $1.5 billion on machinery to increase its 14nm output.

Even with these measures, demand is outstripping supply, limiting PC sales accordingly.

However, the end of this capacity limit does seem to be in sight. The company said that it’s going to be able to ship more 10nm parts than previously expected, and it’s currently building a stockpile of 10nm U-series Ice Lake processors for PC OEMs to test and validate. This means that 10nm systems should start shipping perhaps as soon as the third quarter and certainly in time for the holiday season.

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