A Close Look At The Micron/Intel 3D XPoint Memory

Description: This report explores Intel Corp.'s and Micron Technology's recently-announced 3D XPoint memory and Intel's Optane support products. The report explains the technology and special challenges it will meet in manufacture. Following this, it shows how 3D XPoint memory will be used, including a section about the benefits of its persistent nature. Another section explains how the market will develop and provides two forecast scenarios. The report concludes with discussions of different market segments and predicts how the technology will impact each of them.

To create this report, the authors performed thorough and exhaustive research into the technology and data leading up to its introduction, including reviews of technical conference presentations, patents, and trade shows, along with in-depth interviews with participants in the established and emerging memory markets.

The market was modeled to produce forecasts by estimating its demand in servers, which the companies say is their key market and analyzing which parts of the DRAM market will be offset with this new memory type, and comparing that to the lost market for server DRAM.

Key findings are:

1. The market for 3D XPoint memories could optimistically grow as large as $2.12 billion in 2019, only 2 years after its first production-volume shipments.
2. This technology will not grow unless prices fall below those of DRAM, and this will require significant resources and volume.
3. The Server DRAM market would suffer the greatest losses to this technology, with 2019 revenues hitting their lowest level since 2012.
4. Other markets, namely SSD, HDD, and processors, will not be noticeably impacted by the use of 3D XPoint memory.
5. Despite the fact that most emerging memories are being positioned as NAND flash replacements, Intel and Micron are positioning 3D XPoint as a new layer in the memory/storage hierarchy.
6. Little of the product should ship before 2017, the year the report calls for a memory price collapse.
7. Because the product's production ramp coincides with this collapse, 3D XPoint will have little negative influence on DRAM pricing.
8. Significant system and software support is needed to make this a market reality.

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