

Review Paper on Intel Optane Memory

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Abstract- Intel Optane a new fundamental different storage device also known as caching drive or as the Intel Optane SSD. On what Intel is calling 3d cross print although they're treating exactly what sorts of materials they're using in 3d crosspoint and how they're combination of high performance and nonvolatility at same time. Its basic process is access times consistently as fast, or faster, than the rest of the system will blur the line between storage and memory. The arrival of 3D XPoint memory.

Keywords- 3D XPoint memory, 3d cross print, intel caching drive, Future memory Optane.

I. INTRODUCTION

Users have to face many problems due to slow down of the computer. But the Intel company has found a complete solution to this problem. Intel has built a technology that can increase the speed of your computer up to 28%. Intel has given this technology such a name as Intel Optane Memory. This memory is a smart memory that keeps an eye on every move you make very carefully.

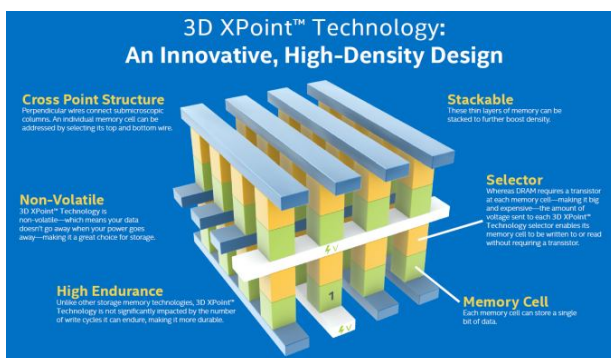


Fig.1:- Intel Optane 3D XPoint

II. WORKING OF INTEL OPTANE MEMORY

Any data saved in the computer is saved on the hard disk, whenever the computer needs that data, it will exit from this hard disk, but the computer processor needs to have that data very fast And it is impossible to read that data from that hard disk so that RAM is installed in the computer. Whenever a computer finds any data, then the data is saved in the first

RAM and then reads the data from the processor RAM. RAM has the same capabilities that the processor can give the speed at which data needs to be given. But RAM is very expensive and if the computer stops, any data that has been saved in the RAM gets deleted so we will get the data Use hard disk to save.

If used in easy language, whenever we open an application on the computer, then the application is saved on the hard disk, the processor needs that data very fast but for the processor to read the data from that hard disk at that speed It is not possible to do so, in the computer RAM is installed whenever any data is needed, then the data is saved in the first RAM and then the processor will read that data. This user. But if we shut down those applications or shut down the computer, then the data gets deleted from the RAM.



Fig.2 :- Intel 32 GB Module

If we have to start the same application again, then all these are done again because no data in RAM is able to save. But it does not happen in the Optan memory; The Optan memory monitors every single move of the user and the user or the data that he or she uses the data, he can save the data himself. But whenever the user closes the application or closes the computer, he still remains active in the data extension memory. And many more data can be saved from RAM in the Apeton Memory.

Optane Memory provides all the data processors with almost the speed of RAM. Because of which every time the user starts that application, then he does not have to wait for

the data to be saved in RAM and the computer speed automatically increases.

III.SPECIFICATION OF INTEL OPTANE

1. Minimum Intel 7th Generation i3 / i5 / i7 or later.
2. Supported Motherboard Plus Memory Slot.
3. 16GB or 32GB optane memory.
4. Endurance rating: 100GB writes per day.
5. Form Factor:M.2 2280-S3-B-M

IV. FEATURES OF INTEL OPTANE

1. 3D X Point technology
2. PCIE transfer interface with SSD-like speed
3. Intel Rapid Storage technology
4. End-to-end data protection

V. ADVANTAGES OF INTEL OPTANE

- It becomes more affordable than RAM.
- Optane is good if you have spinning hard drives.

VI.DISADVANTAGES OF INTEL OPTANE

- Migrate older application to a new version is difficult or take lots of time.
- Intel Optane memory module not actual replacement for the system Dynamic RAM.
- If a game requires X GB of RAM then it can't load in optane memory.

VII.CONCLUSION

We recently studied the performance effect of Intel Opten with HPC I/O intensive applications Given the specific performance characteristics of Opten, some of the existing I/O stacks To customize the display, it should be re-examined. according to this Our experimental results, we have got an OPTen device very much Need to improve scalability under high bandwidth but some Conditions; The collective I /O optimization does not always work. In the future, we can make a model to choose suitable I/O method based on application workload features and Storage display Our work puts some foundation Deployment of NVM products in future HPC.

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