3D XPoint™ Technology

Ken Gibson
Director, NVM SW Architecture, Intel Datacenter Group
3D XPoint™ Technology - A New Class of Memory

- Up to 1000 times faster\(^1\) than NAND
- Up to 1000 times greater endurance\(^2\) than NAND
- 10 times denser than conventional memory\(^3\)

SSDs with Intel Optane™ technology

Intel DIMMs

With next-generation data center platform

2016
The Future: Memory = Storage

Today

Cold
Warm
Hot

The Future

Cold
Hot

Intel DIMMs based on 3D XPoint™ technology + DRAM

SSDs + Hard Disk Drives

DRAM
SSDs
Hard Disk Drives
Just Add Software

Legacy SW Stack

Fast Storage

Optimized SW Stacks

High Capacity Persistent Memory

Open SW innovation in-process at SNIA.org, http://PMEM.io, and Linux kernel developer forums
Notes

1. Performance difference based on comparison between 3D XPoint™ technology and other industry NAND

2. Endurance difference based on comparison between 3D XPoint™ technology and other industry NAND

3. Density difference based on comparison between 3D XPoint™ technology and other industry DRAM