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Summary

Before his retirement from Intel after nearly 28 years of service, Knut held the position of Intel Fellow, the highest tier technical position at Intel. He was responsible for storage technologies including Intel's solid state disk drives (SSDs) and their associated interfaces. In his last couple years at Intel as the SSD business was divested, he transitioned to the datacenter group where he drove the development of fundamentally new technology to enable a new business model for Intel (in-field CPU SKU tailoring and consumption-based models).

Select Experience Summary

- 1993 Hardware engineer in the Intel Architecture Labs with focus on improving the storage performance of Intel's entry into the standard high volume server segment (a new segment for Intel at the time) resulting in the first demonstration of a SHV server delivering 10,000 IOPS.
- 1998 Developed the Intel Application Launch Accelerator technology that dramatically improved the time to launch large applications delivered and shipped with Microsoft Windows 98.
- 1998 Part of the team that drove the "UltraDMA" protocol enhancement to the parallel ATA storage interface to enable further performance scaling beyond the 16MB/s that was the maximum at the time for regular ATA.
- 1999 Part of the Intel team that initiated the Serial ATA initiative based on industry (and Intel) need and enlisted the founding group of promoter companies to pursue definition and development of the technology.
- 2001 Intel's primary technical contributor in developing and delivering the original Serial ATA 1.0a specification published in August 2001, and member of the core promoter group forming the Serial ATA initiative (ref https://www.seagate.com/support/disc/manuals/sata/sata_im.pdf cover page and page 2)
- 2004 Primary Intel technical contributor in delivering second-generation SATA 2.0 definition.
- 2004 Drove the formation of a formal industry association (SATA-IO) to sustain and further advance the Serial ATA core technology (see www.sata-io.org) and served as the chairman of the board of directors for the SATA-IO organization from 2004-2016.
- 2007 Led the ONFI (Open NAND Flash Interface) industry association as chairman of the board and key technical contributor to deliver the 1.0 standard to enable interchange between NAND components and simplify integration into end products.

- 2008 Led the SATA-IO organization through development of the SATA 2.6 and 3.0 generations published in 2007 and 2008 respectively.
- 2008 Let the R&D team that developed and delivered Intel's first SATA solid-state drive (SSD) launched as the X25-M and X18-M and later that year the enterprise-class X25-E. Subsequent iteration (dubbed G2) released the following year.
- 2011 Led the ONFI industry association to deliver ONFI 3.0 that substantially increased transfer rates for NAND flash components.
- 2012 Led the architecture team that delivered Intel's first SATA 3.0 enterprise-class (6gbps) SSD program DC-S3700.
- 2018 Led the SATA-IO board of directors through the development of the SATA 3.1 (2011), 3.2 (2013) and 3.3 (2016) generations. Stepped down from the SATA-IO board and from the initiative to pass the baton to the next generation of Intel representatives and devote more time to leading Intel's solid-state storage (SSD) architecture team.
- 2018 Led the initiative to deliver "Intel on Demand" capability to enable late-binding feature configuration and "as-a-service" or consumption-based business models for Intel's Sapphire Rapids generation of datacenter platforms (launched January 2023).
- 2021 Retired

Patents & publications

Inventor or co-inventor on over 70 issued patents primarily in the fields of storage interfaces and solid-state storage technologies (ref uspto.gov/patents/search).

Primary author "Serial ATA Storage Architecture and Applications: Designing High-Performance, Cost-Effective I/O Solutions" (ref ISBN-13: 978-0971786189).

Education

- 1988 B.Sc, Electrical Engineering, Brigham Young University
- 1989 M.Sc, Electrical & Computer Engineering, Brigham Young University
- 1993 PhD, Electrical & Computer Engineering, Brigham Young University