Abstract:
Hybrid Disk Drives, the combination of a standard hard disk drive and a NAND chip, are a budding phenomenon enabled by new features of Microsoft's Windows Vista operating system. This technology promises to sweep the PC hard drive market. Objective Analysis' Hybrid Disk Drive study explains hybrid drive technical principals, its potential market, competing technologies, and how the NAND market, the PC market, the SSD market, and the HDD market will all be impacted by this new twist on an old technology.

Contents:
Executive Summary
What is a Hybrid Hard Disk Drive?
   Elements of a standard HDD
   The DRAM cache
       Limitations of DRAM caches
   A NAND alternative
       NAND’s nonvolatile advantage
       NAND’s price advantage
   NAND as a cache for the HDD
   Intel’s Turbo Memory alternative
Benefits of the hybrid HDD
   Shock tolerance
   Power consumption
   Access speed
   Reliability
   Where the truth lies
The role of software support
   Why a cache needs software support
   The “Instant-On” myth
   Issues with legacy
   Why will support take so long to materialize?
Alternatives to the SSD
   Solid State Drives
   Standard HDDs
   DRAM write caches
   Increased DRAM main memory
Cost implications of SSDs
   How NAND costs will add to HDD costs
Consumer reaction to costs of alternatives
HDD makers’ plans
   Devices currently introduced
   Expectations for the future
What will happen in the future?
   Near-term expectations
   Software changes and their impact
   A forecast for Hybrid HDD shipments
   The impact of Hybrid drives on the NAND market
Summary