Abstract:
IT professionals find it difficult to determine which SSD or flash array to buy or even whether they can get the speed they need from standard HDDs. There is an extraordinarily wide rage of IOPS (from hundreds to millions), latencies, and capacities, and this can be confusing. This report provides, through a survey of IT managers and other end users, a clear picture of the needs of various applications including IOPS, latency, and capacity. This 157-page report contains 136 figures and 8 tables of data that exhaustively analyze the responses to our survey and compare our 2016 survey to an earlier survey run in 2012.

Contents:
Executive Summary
Survey Objective
Why did we do this?
Methodology
Margin of Error
Anticipated Outcome
Storage Devices and their characteristics
SSDs, and Flash memory vs. DRAM
Caching/Tiering vs. Determinism
Raw Results
IOPS Requirements
Fast Capacity Requirements
Impact of Other System Bottlenecks
Minimum Useful Latency
Comparing the Results
IOPS vs. Capacity
Latency vs. Capacity
IOPS vs. Latency
Application Sensitivities
Database Systems
Metadata Servers
Data Warehousing and Search
Internet Server Caching
On Line Transaction Processing (OLTP)
  Charge Card Processing
  Reservations Systems
  Algorithmic Trading
  Currency Exchange and Arbitrage
  Inter-Bank Transfers
  Other On-Line Transaction Processing Applications

Cloud or Storage Services
  Real Time Data/Feed Processing
  Contextual Web Advertising

Scientific or Engineering
  Electronic Design Automation & Modeling
  Weather/Life Sciences
  Aerodynamics Design
  Nuclear Fission Models
  Software Development

IOPS Requirements by Application
The Monetary Value of Higher IOPS Figures
How the Market Should Develop