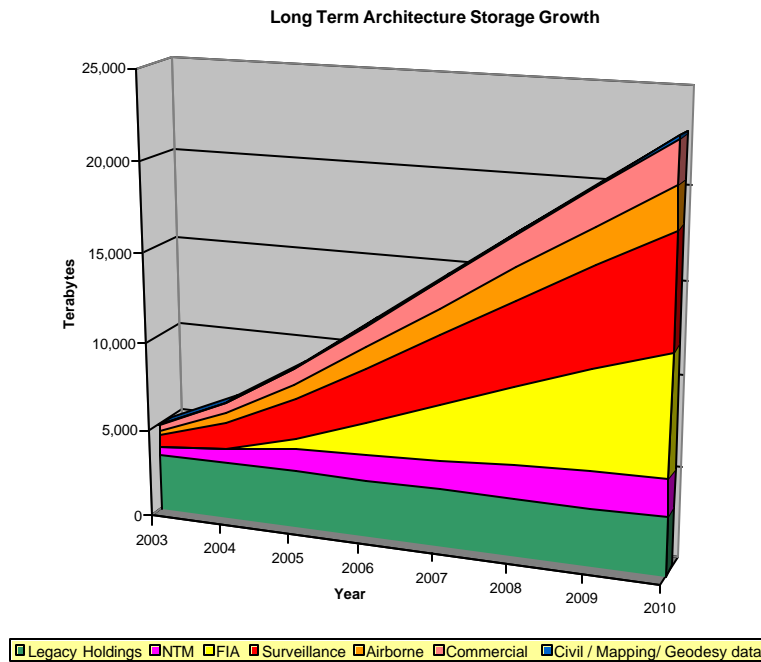


## Project Profile: Long-term Archiving Roadmap



The NTA has undertaken the task of developing a long-term archiving roadmap to meet the National Geospatial-Intelligence Agency's (NGA) storage needs for new collection systems as demand for archiving increases. This will require orders-of-magnitude improvements in the underlying data storage technology supporting the agency holdings. Currently, most images in the holdings are stored on tape, and it appears that key vendors will exit the field and that archival data will have to be migrated to new media. The NTA seeks to proactively plan to meet these needs by a number of methods, including evaluating how COTS image archiving solutions, specifically storage technologies, may be applied to NGA's long-term storage needs.

**Project Goals:** Develop the technology roadmap for commercially-based archival storage that responds to NGA-defined storage needs.

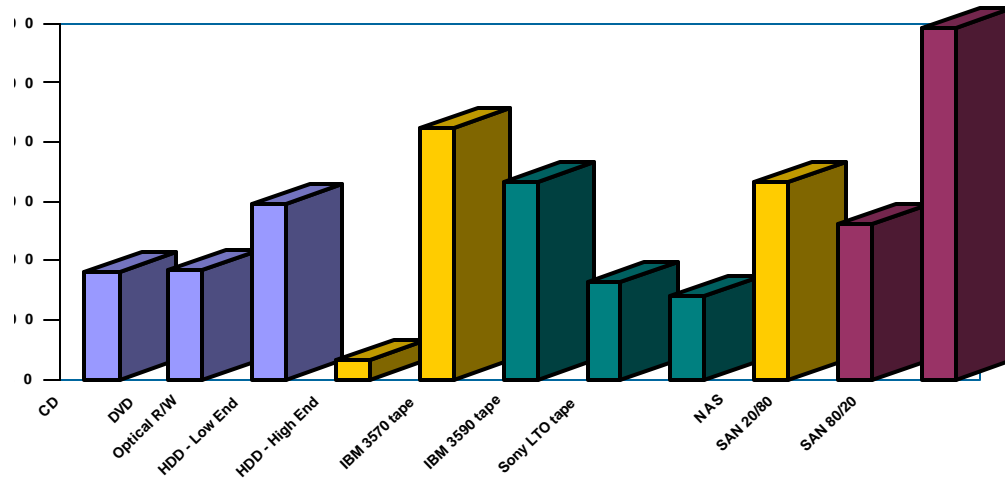
**Objectives:** Identify technology solutions that meet the NGA long-term archive needs. As part of this objective, suitable technology options will be identified and used as the basis for developing the technology roadmap. Develop path to comprehensive, long-term solutions, including funding profiles for commercial technology development and plans for long-term technology insertion.

**Challenges:** Plan for and develop a long-range storage architecture before deciding where to make a technology investment. The challenges in developing the architecture include:

- The need for storing very large amounts of data and providing fast access to that data
- A widely-dispersed workforce that needs to access common data
- A large number of different types of applications, servers and operating environments
- Continued support for legacy data repositories
- A desire to move to a more COTS-based data architecture
- The need to support rapid technology insertion

- Rapidly expanding data storage requirement that will need the constant addition of storage
- The need to keep overall data storage costs to a minimum
- A records-retention policy that requires online, near-line and offline components
- A secure data networking environment

Long Term Archive Storage Costs / TB



**Key Technologies/Activities:** Assessed current market, scalability, market risk, and long-term reliability of tape, magnetic media, magnetic/optical, CD/DVD, and holographic technologies, as well as network attached storage (NAS) versus storage area network (SAN) solutions. The effort also included development of long-term archiving costing model, NGA long-term business requirement summary (from survey), and a commercial technology development plan defining a research program necessary to support execution of a technology roadmap.

**Accomplishments/Results:** Results delivered include: (1) A *Storage Requirements Summary*, based on a model that estimated NGA's future storage requirements and what that might cost. The model includes estimates of Legacy Holdings, NTM, FIA, Surveillance, Airborne, Commercial Imagery, and Civil/Mapping/Geodesy data from 2003 through 2010; (2) an *Investment Roadmap* and decision tree of how NGA can use its storage requirements to select what types of investments to make in storage; (3) a *Technology Assessment* that evaluates those classes of storage solutions and the underlying technology that were applicable to NGA; (4) an *Investment Roadmap* with recommendations about the next steps for NGA technology investment.

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