Hitachi’s Digital Preservation Platform (HDPP) offers you a revolutionary way of thinking about the future of your data. Imagine a storage solution that has the ability to preserve unlimited amounts of data for decades on end with minimal migration between data. Regardless of your mission or size, HDPP keeps your data accessible, ensures compatibility across generations of technology and offers economic value over the long-term.

Digital data storage needs are growing exponentially but your resources aren’t. HDPP represents an entirely new tier of data storage that frees you from forced migrations, is compliant with federal requirements and ensures that your data will be preserved for generations, all at a lower total cost of ownership (TCO).
Long-Term Storage Redefined

Your data is important and irreplaceable – not just to you, but to the public you serve. You need a trusted, reliable data repository – one that preserves the integrity of your data and ensures accessibility for continued retrieval and value through the ages.

The explosion of digital information being created today and the proliferation of media formats pose a long-term storage challenge for federal agencies. Missions and needs vary with respect to whether data needs to be online, near-line, accessible, dark-storage or just kept forever. Some organizations are required to archive data anywhere from five to over 100 years to fulfill regulatory requirements, while others now have mandates that require data to be preserved forever. This clearly changes the mindset from just high-availability to a true preservation activity. Moreover, digital data preservation is governed by a wide variety of laws, ISO standards and regulations relating to retention, deletion, authenticity, accessibility and confidentiality of data.

Cost-efficiency is another factor when considering long-term preservation. Traditional archives employ a migration strategy that is proven to be costly over time. Migration is an ongoing process that takes a significant amount of resources, requiring periodic media refresh.

Hitachi Digital Preservation Platform (HDPP) Media Roadmap

Blu-ray optical media and M-DISC media ensures longevity and compatibility across generations of technology so the data can still be read as formats continue to evolve. It is projected that the storage capabilities will only improve over time with media manufacturers forecasting 1TB capacities on a single disc. All of this results in a long-term digital data preservation solution that can meet the growing needs of today’s organizations.

<table>
<thead>
<tr>
<th>MEDIA</th>
<th>FY2014 Q2</th>
<th>FY2014 Q4</th>
<th>FY2015 Q4</th>
<th>and beyond</th>
</tr>
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<tbody>
<tr>
<td>Blu-ray Disc</td>
<td>$100GB$ (single sided, 50yr)</td>
<td>$200GB$ (double-sided)</td>
<td>$300GB$ (double-sided)</td>
<td>$500GB &amp; 1TB$ Sony &amp; Panasonic Projections</td>
</tr>
<tr>
<td>M-DISC</td>
<td>$25GB$ BD-R (single sided, 1,000 yr)</td>
<td>$100GB/200GB** (planned) (single sided, 1,000 yr)</td>
<td>$300GB** Optical (planned) (1,000 yr)</td>
<td>$300GB** Optical (planned) (1,000 yr)</td>
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<tr>
<td>HL100</td>
<td>450TB / Rack</td>
<td>1 PB / Rack</td>
<td>1.5 PB / Rack</td>
<td>Future M DISCs</td>
</tr>
<tr>
<td>HL200</td>
<td>1 GB Ethernet</td>
<td>1 GB Ethernet</td>
<td>10 GB Ethernet</td>
<td>Future Libraries</td>
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<tr>
<td>HL300</td>
<td></td>
<td></td>
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<td>**Millenniata Projection</td>
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HDPP Innovation – Cost-Effective Digital Preservation

HDS Federal is a major player in the U.S. federal market, serving agencies with IT strategies, cloud solutions and high-availability data storage. Our innovative HDPP product is designed with federal agencies in mind, particularly those with missions requiring true data preservation with the benefits of a long-term, accessible storage solution with a lower cost of ownership.

HDPP:
- Respects the irreplaceable value of your data, preserving it for generations to come.
- Keeps data at the ready and supports e-discovery needs.
- Provides low energy storage.
- Works with legacy infrastructure and supports the exponential data growth experienced by and shared across federal agencies, missions, programs, locations, uses and roles.
- Protects your data against malicious or unintended destruction through its write once, read forever, immutable optical storage media.

The HDPP solution is based on optical technology that utilizes available Blu-ray and eventually M-DISC technology that can place petabytes of data in a rack while only consuming one kilowatt of power. This technology leverages the most established format family in data history (CD ROM to DVD to Blu-ray) with a new disposition that’s projected to preserve data for up to 1,000 years. This new preservation tier represents a higher level of storage that augments traditional archiving solutions.

By using enterprise quality Blu-ray optical – and soon M-DISC media – HDPP enables customers to safely preserve media for decades without the need for forced migrations. These optical discs have proven survivability including resistance to water and dust, electromagnetic events and storage environments with heat and humidity. Optical discs require only a small amount of energy to maintain, with each rack of optical libraries consuming approximately one kilowatt of power, resulting in increased energy efficiency.

HDPP maximizes the utilization and capabilities of your storage resources and reduces risk and operations as overhead. It creates a storage environment that is long-term, available, agile and secure supporting analysts’ work on various missions over a much longer historical period.

Permanent
- Enables stable long-term storage capacity of 50 years using Blu-Ray and eventually up to 1,000 years using M-DISC.
- Stores 0.5 PB per rack today and 1PB per rack by the end of 2014.

Accessible
- Reduces the time needed to find data through its unique design.
- Improves data integrity and reduces the need for migrations, increasing the likelihood that the right data will be easily accessible.
- Allows multiple users to work collaboratively from the same data on demand.

Economic
- Offers lower total operating costs through lower media costs, low environmental requirements, migration-free technology and high media longevity, durability and survivability.

Compatible
- Ensures data reliability and integrity through stable industry and consumer standard media and technology that has been supported for more than 30 years.
- Provides a stable, non-magnetic solution for data preservation strategists looking to complete their 3-2-2 data preservation strategy.

Total Cumulative Cost for 500 TB Capacity

Compared to traditional storage solutions such as tape and HDD, the digital preservation system using Blu-ray optical and M-DISC media has a lower total cost of ownership (TCO).

![Chart showing total cumulative cost for 500 TB capacity](chart.png)

- Disk Total
- Tape Total
- Cloud Total
- HDPP Total
**HDPP Product Overview**

**Quick Specs**

- Digital Preservation Robotic Library – Storage array for Blu-ray
- 4U standard rack mount unit
- 500 disc capacity @ 100GB or 200GB per disc = up to 100 TB
- 2x 250 disc removable cartridges
- 12x optical disc drives (ODD)
- 216 MB/s maximum read performance BD-R
- Up to 2.1 GB/s from rack configuration
- 9 or 10 library units in a rack
- 6x 1Gbit Ethernet ports
  - 4 ports for data
  - 2 ports for maintenance
- 90 Watt power consumption per library
- Offline media supported