

## Plasmon Multi-Tier Enterprise Active Archive (EAA)

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**Abstract:** Plasmon's Enterprise Active Archive (EAA) integrates disk and Plasmon's Ultra Density Optical (UDO) storage with policy management software, creating a multi-tiered archive for cost-effective, long-term accessibility to business compliance data.

### New Rules Demand New Approaches

Increasing data volumes, an unending list of corporate governance and regulatory requirements and new amendments to the Federal Rules of Civil Procedure (FCRP) have organizations of all sizes re-thinking their plans for long-term data archival—and so they should. Organizations that don't think broadly in these terms expose themselves to potentially significant—and unnecessary—risks.

According to ESG Research<sup>1</sup>, the volume of archived electronic information isn't just growing, it's exploding. In fact, ESG expects total worldwide archived capacity in the commercial and government sectors to exceed 27,000 petabytes—that's 27 exabytes—in the next three years. At these rates, organizations are faced with the immediate challenge of finding a way to cost-effectively store all this data while ensuring the solutions they implement meet corporate and regulatory mandates for data retention, authenticity and disaster recovery. The consequences of failing to recover data or documents quickly and completely—especially in electronic data discovery (EDD) events—can have significant financial implications.

To put this in some context, 42% of respondents to a recent ESG digital archive survey said they had been involved in an EDD situation (see Figure One). Fifty-four percent of respondents further said their organizations occasionally failed to produce requested records and 13% reported some type of financial penalty as a result of not being able to.

Clearly, new regulatory/EDD times call for new digital archive measures. Tape is not an effective digital archive medium, especially for business compliance data. It simply takes too long for users to find and retrieve data on tape. This time lost equates to dollars lost—in manhours consumed to find data, application downtime, fines, etc. Additionally, there are software license fees for a recovery environment and other “soft” costs to consider, which include the business costs of not leveraging the “information” that these archives contain.

### End-User Perspective

“We can't keep searching through backup tapes for old data. We had to deal with a corporate-wide lawsuit last year that required us to produce a significant number of e-mails. We quickly realized it literally would take a year and half to produce the data from our backup tapes. When legal found that out, they didn't need much convincing that there was a better way!”

—Healthcare Company

<sup>1</sup> ESG Research Report: *Digital Archiving: End-User Survey & Market Forecast 2006-2010*, March 2006.

While most of today's digital archive solutions leverage some type of SATA disk back-end (NAS, CAS, MAID, etc.), a case can be made for implementing a tiered archive—one that combines disk and optical. Plasmon's Enterprise Active Archive (EAA) is an example of this type of tiered archive solution. The solution integrates disk, Plasmon's UDO Archive Appliance, and Nexsan's Assureon software.

The common objective is to get persistent data off primary storage systems and onto the appropriate storage tiers. In the case of the Plasmon EAA, disk is used for the active portion of the archive and removable UDO media functions are used for the second secure copy that does not require backup and/or the permanent off-site DR copy of the data. Both tiers have

the necessary security and audit features to meet the requirements of business compliance data. Nexsan's Assureon software enables the movement of data among these tiers according to user-defined policies in addition to other key functionality, which this paper will address.

### EAA Implementation

Plasmon's EAA is a multi-tier active archive that can be configured to customer requirements with both RAID disk and UDO technologies. Back-end disk can be an external RAID system or a pool of these systems combined with one or more UDO-based Plasmon Archive Appliances.

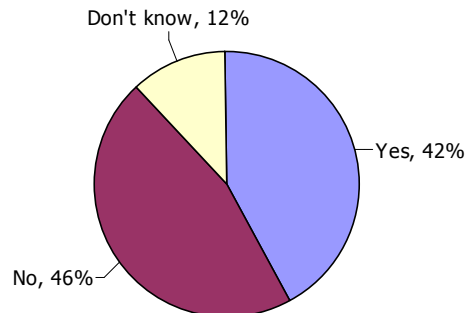
The movement of data among these tiers is enabled by EAA software (Nexsan's Assureon software), which runs on participating server nodes. Through the software's GUI, users establish policies for data retention, security (256-bit encryption and key management) and disposition (i.e., when and how data is deleted from both disk and optical media). The software also performs other key business compliance functions including replication, digital time stamping of both file and meta data, auditing of both users and applications and file serialization.

WORM support is enabled for disk through software and for UDO media through hardware WORM. Users can choose to encrypt all, none or some variant (i.e., file, volume, or full-archive) of their data while it's at rest or in transit. (This applies to data being written to both disk and UDO.) Similarly, users have flexibility when it comes to DR. They can securely replicate data either locally or remotely over a WAN to a second EAA appliance/system, or they can make a second copy locally onto UDO media and later move that copy off-site. In both cases, data can be encrypted for security purposes.

To minimize the amount of traffic that goes over the WAN as well as the size of the actual archive, the Assureon software also de-duplicates data at the file level. However, it retains the unique metadata for all owners of the file. This has benefits from both a pure IT efficiency standpoint in terms of capacity and performance as well as from a power and cooling standpoint. There are definite efficiencies to moving data off primary disk resources that keep disks constantly spinning and onto more energy efficient storage, as in the case of Plasmon UDO media, which only spins when accessed. UDO provides a level of power and cooling efficiency that is similar to tape and less than disk. With electricity running at an average cost of 9.28 cents per

**Figure One: Percent of Organizations Subject to an Electronic Data Discovery (EDD) Request**

**To your knowledge, has your organization been involved in a legal proceeding or regulatory inquiry that necessitated a search for and/or retrieval of electronic records? (Percent of respondents, N = 485)**



kilowatt-hour, this can quickly translate into some pretty big cost-savings and an environmentally responsible alternative. Data de-duplication can contribute additional savings by reducing the amount of physical size needed for archives. The less disk needed, the less power consumed.

The Assureon software also provides a level of search and indexing that will become essential as the size of user archives grow. Although we have not done any hands-on testing of the EAA to date, the architecture appears to do what it says—and the GUI used to set policies and manage the interface appears intuitive and easy to use.

### Bottom Line

The market is ripe for this type of solution. Organizations simply cannot afford to continue keeping non-transactional data on primary storage systems. When you think about it, it is counterintuitive. We're scaling out our most-expensive primary storage systems so we can house more and more non-transactional data. For this type of data, archive platforms such as Plasmon's EAA make better economic sense.

Users have an increasing number of options for this secondary storage—or archive—tier, so why choose EAA? Plasmon EAA gives users the flexibility to leverage the strengths of both disk and UDO media. While users could implement an all UDO EAA solution, we expect the majority of users to go with disk plus UDO for DR purposes. Removability is a key requirement for Plasmon's core market audience: business compliance users. The UDO Archive Appliance provides this without the headaches that go along with tape. Plus, it offers better, faster access rates, doesn't require IT intervention and offers a longer shelf-life than tape with about the same (or better) energy efficiency. The challenge is getting users (and partners) to recognize the value of optical solutions like the EAA in this new role.

Bottom line: The Enterprise Archive Appliance is a smart initiative for Plasmon and should help them gain a foothold in their targeted core financial and healthcare markets. The idea is for them to lead with a disk and UDO Archive Appliance solution. Currently, the EAA supports NEXSAN RAID disk with UDO. Theoretically, it could use the AA behind any disk technology (RAID, NAS, MAID, VTL, etc.) and Plasmon is evaluating other alternatives. Current Plasmon disk partners include Nexsan.