

Aurreum Data Protection Appliance

White Paper

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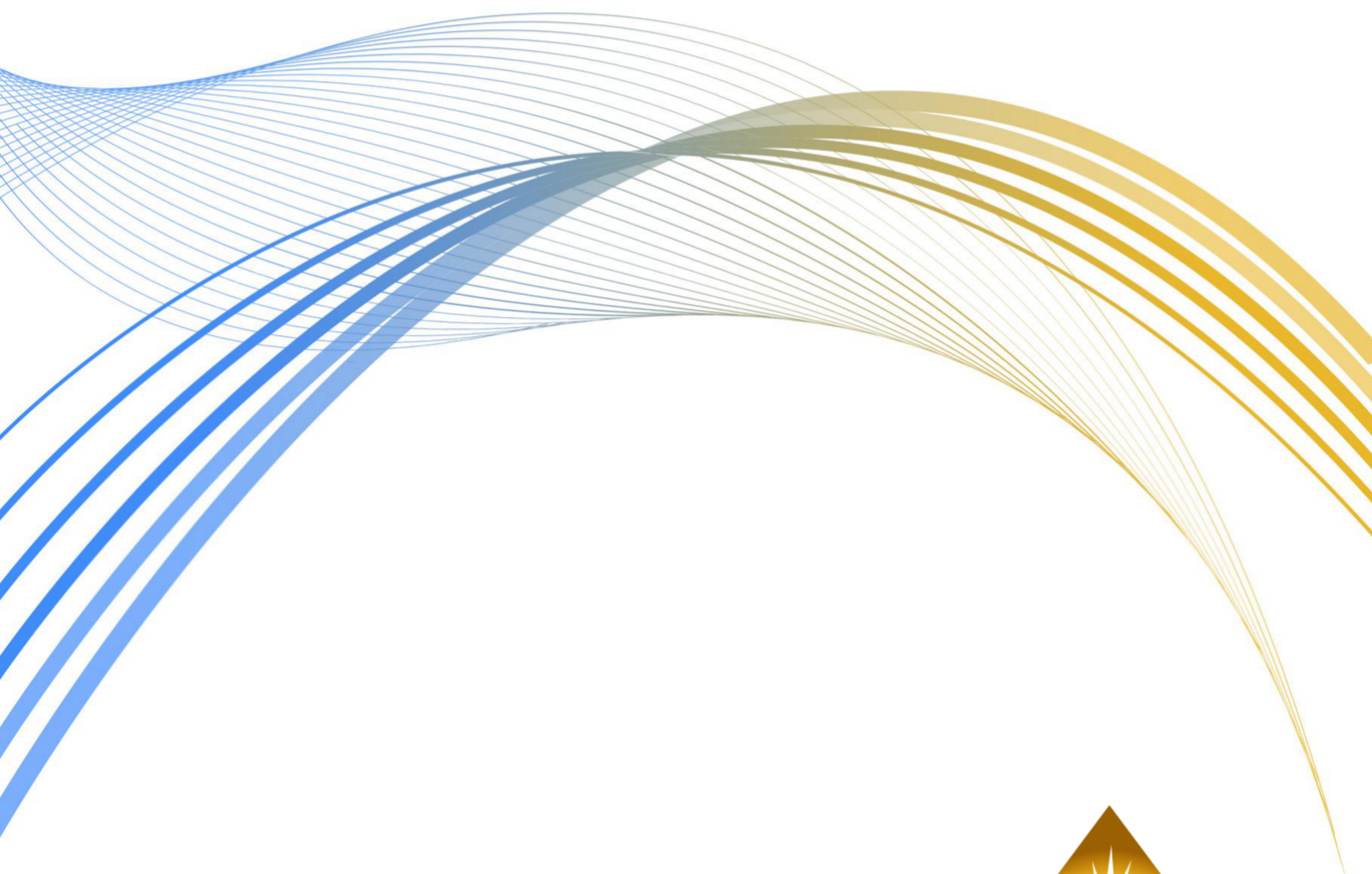


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Chapter 1

About Aurreum

We are one world. We seek to create a safe world without artificial barriers or imposed limitations. As humans, we have come from cave paintings to digital arts previously unimaginable. Although what requires protection in our lives has changed, the significance of protecting what is precious has not. Global customers trust Aurreum to safeguard their digital treasures from a wide range of threats, including (not limited to) hardware failures, natural disasters, human mistakes, and cyber-attacks.

Aurreum Data Protection Appliance (ADPA) is an enterprise-level data backup appliance. We embed our self-developed software Aurreum Data Protection Suite (ADPS) into self-optimized servers, tune the performance of software algorithms according to hardware attributes, and deeply integrate the software and hardware into an all-in-one appliance. ADPS is independently designed and developed by Aurreum, providing data protection functions such as data backup and continuous data replication. We construct an efficient, economical, and reliable data protection system to provide innovative, comprehensive, and affordable solutions for the long-term development of enterprises according to their production environment and data protection needs.

Aurreum protects your business and future. We keep innovating our technology to redefine the standard of data protection.

Chapter 2

Advantages

- **Affordable and Friendly**
Choose ADPA, and you will have a loyal friend in data protection. ADPA brings you powerful backup and restore capabilities to avoid data loss. With data de-duplication and fast compression, you can directly back up your data to the cloud and minimize your storage costs. Concise and clear, the user-oriented wizard-style interface of Aurreum allows you to get started without professional knowledge!
- **Easy Setup**
Rack the appliance, power up, and within minutes ADPA will be up and running. An intuitive Web-based user interface allows effortless configuration and easy operation.
- **Strong Environment Compatibility**
ADPA is compatible with over 1,000 data types that are commonly used by enterprises, including file systems, databases, emails, developer files, virtualization, cloud platforms, and object storage services. All data types are managed on a unified platform, which reduces management costs.
- **Ransomware Protection**
Aurreum Data Protection Appliance provides the ultimate solution to ransomware protection. With the built-in cloud replication and global de-duplication, ADPA can efficiently replicate the backup catalog and data set to a hardened storage volume within the appliance or the object storage in any cloud, preventing the attackers from modifying the backup data. In the event of a ransomware attack, ADPA utilizes bare metal recovery and instant recovery to quickly restore the backup system and, in turn, restore all the affected production servers to operation.

Chapter 3

Key Features

3.1 Data Backup

- File protection supports Windows, Linux, AIX, Solaris, and HP-UX operating systems. ADPA provides full backup, incremental backup, cumulative incremental backup, synthetic backup, incremental restore, and recovery testing. Under the scenario of massive small files, ADPA adopts multi-level indexing and multi-channel backup technology to speed up the backup of files. The time taken is shortened 10-20 times compared to normal backups.
- ADPA supports full backup, incremental backup, and timepoint restore for various databases, including Oracle, SQL Server, MySQL, Sybase, DB2, Informix, MongoDB, PostgreSQL, Caché, SAP HANA, and MariaDB. Log backup and timepoint restore to a specified point in time are supported for some databases. For Oracle, MySQL, Informix, and DB2, ADPA can detect and save their log file changes in real time, ensuring that the data between backup storage and business system is nearly consistent and an RPO approaches 0.
- Application protection supports the backup and restore of Office 365 Exchange Online, Microsoft Exchange Server, Lotus Domino, Microsoft SharePoint, and Microsoft Active Directory.
- Virtualization protection supports VMware and Hyper-V. Full backup and incremental backup are supported.
- ADPA can back up and restore the distributed file system Hadoop as well as object storage services, including Amazon Simple Storage Service (Amazon S3), Microsoft Azure Blob Storage, Google Cloud Storage, and Backblaze B2. Full backup, incremental backup, cumulative incremental backup, synthetic backup, incremental restore, and recovery testing are supported. The backup data can be quickly mounted to the file systems for flexible and convenient usage.
- Operating system protection supports the backup and restore of Linux and Windows. ADPA can achieve the fine-granularity file-level restore to quickly retrieve and restore files with no need to restore the entire system.

3.2 Data Management

- 3-2-1 Backup Rules

To achieve comprehensive data protection, an enterprise should have three data copies. Two of them reside on different media, and one in an offsite environment. With the replication function of storage pools, ADPA can save two backup sets in local storage and one in offsite, reducing the possibility of data being destroyed at the same time. When the local backup set is damaged, the offsite one can be directly used for recovery. ADPA can also back up data to the object storage, taking full advantage of the scalability and economy of cloud storage. When data is encrypted or tampered with by ransomware, data can be restored from the backup system or the cloud as required, avoiding high ransom payments and shortening business interruption time.

- Data De-duplication

Data de-duplication refers to removing duplicate data during data transmission and leaving only one copy of data. It is applicable for backups. For example, backing up files or databases every week will create a lot of duplicate data. The de-duplication algorithms can analyze whether the data is unique and only store the unique one. It allows businesses to store more data in less space, which has huge economic benefits. Meanwhile, ADPA adopts source-side de-duplication technology and only transfers the unique data, which can greatly reduce the occupation of business bandwidth, improve backup efficiency, and shorten the backup window.

- Fast Data Compression

With fast data compression technology, ADPA can compress backup data to reduce backup transfer bandwidth, improve backup speed, and reduce the storage capacity occupied by backup sets.

- Disaster Recovery Testing

Each backup set of a database can be periodically restored to a specified standby host to verify the backup set's availability. ADPA allows enterprises to reuse critical systems and IT infrastructure as quickly as possible in the event of a disaster.

- Heterogeneous File System Cross Restore

With the development of information technology, the IT architecture of enterprises is moving towards a hybrid and multi-cloud world. It is unavoidable to migrate local data to the cloud or take the data from the cloud to the local. ADPA supports backing up data in files, Hadoop, and object storage. When needed, the backup sets can be restored to the object storage to realize the data migration or restored from the object storage to the file system for viewing, querying, or analyzing.

3.3 Operation and Management

- Multiple Backup and Restore Types

ADPA provides multiple backup and restore types, including full backup, incremental backup, cumulative incremental backup, log backup, instant recovery, media restore, timepoint restore, and recovery testing.

- Custom Backup Speed

ADPA can limit the backup and offsite disaster recovery speed in a specified period.

- Custom Backup Strategy Settings

ADPA provides a flexible backup strategy management platform. The backup strategy supports various time dimensions, including immediate, minute, hour, week, and month. Users can set appropriate data backup strategies according to the enterprise information security requirement. Backup jobs will be automatically executed at the set time or periodically.

- Data Transfer in Slow Network Environment

The unique slow network support technology of ADPA can enable enterprises to achieve data protection under existing network bandwidth conditions. Even in the case of an unstable network, ADPA can

resume broken connections to perform efficient offsite data backup and restore. It avoids the high cost incurred by the dependence on the high-speed proprietary fiber-optic network during offsite disaster recovery.

Chapter 4

Product Specifications

Technical Specifications	AB10
Usable storage capacity (TB)	16T
Form Factor	1U
Processor	8 Cores 16 Threads
RAM (GB)	64
1Gb Ethernet Ports	2
10Gb Ethernet SFP+ Ports ¹	2

1. 10Gb short range 850nm optics included.