



SNIA-CHINA

全球网络存储工业协会(中国)  
Storage Networking Industry Association(CHINA)

# 网络存储双语词典

Network Storage Terms and Acronyms

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中国科学技术出版社

# 网络存储双语词典

Network Storage Terms and Acronyms

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中国科学技术出版社

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## 关于 SNIA-CHINA

SNIA (Storage Networking Industry Association 全球网络存储工业协会) 成立于1997年,是由400多家致力于发展网络存储的企业组成的国际性协会。SNIA 积极支持行业标准的制定,推广各种网络存储技术和解决方案的互操作性和培训事务。SNIA 是全球网络存储领域内的基于技术标准确立的中立性组织。它的使命正是为确保网络存储成为 IT 领域完整的、可信赖的解决方案而服务。目前,在全球范围 SNIA 已经拥有 5 家分支机构:欧洲、日本、中国、南亚(包括印度和新加坡)以及澳洲 & 新西兰。其中, SNIA (中国) 是其全球范围内的第三家地域性分支机构。

如欲了解更多资讯请登陆: <http://www.snia.org.cn>

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# 网络存储词典说明

本词典是经过多年针对网络存储技术与应用的研究与整理后，编辑而成的一本标准化、专业化，同时具有技术前瞻性的网络存储专业工具词典。本词典收录了大量专用词汇，并由 SNIA CHINA 技术中心根据中国的网络存储应用环境进行了汉化工作。

本词典未附有“厂商常用词汇”、“厂商简介”两个附录，旨在使读者进一步了解存储行业的技术与市场。

本词典在编写过程中得到了 ADIC(美国先进数字信息公司)、Brocade[博科通讯系统(中国)有限公司]、Cisco System [思科系统(中国)]、EMC(易安信美国公司)、HP(中国惠普有限公司)、IBM(国际商业机器中国有限公司)、STK(美国存储技术公司)、Veritas(维尔软件公司)、北京亚细亚智业科技有限公司、北京威视瀚海数据技术有限公司等公司(按字母顺序排列)的不同形式的帮助，在此表示感谢。

2004年9月

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## SNIA 网络存储 词典

### 8B/10B encoding(8B/10B 编码)

语境 【Fibre Channel】

对数据进行编码以便于传输的一种算法,每个八比特数据字节被转换成10比特传输字符。8B/10B 编码由 IBM 发明并持有专利,用于在 Fibre Channel、ESCON 和吉比特以太网上传输数据。8B/10B编码在编码流中通过保持“0”和“1”比特位在数量上的平衡,从而支持比特流的持续传输,并可校验出单个比特的传输错误。

#### A

### Access (访问)

语境 【安全】

使用信息系统资源的时机。

### Access control (访问控制)

语境 【文件系统】 【安全】

根据请求者所充当的角色标识,决定是允许还是拒绝提供其所请求的服务或请求访问的资源。

### Access control list (访问控制列表)

语境 【文件系统】 【安全】

一个永久性列表,列出了各个主体(比如用户和用户组)访问资源的权限。通常用于文件系统语境中,指由文件系统维护一个永久性列表,以定义用户和组对文件和目录访问的许可权限。

### Access control mechanism(访问控制机制)

语境 【安全】

## The SNIA Dictionary of Storage Networking

### 8B/10B encoding

CONTEXT [Fibre Channel]

An algorithm for encoding data for transmission in which each eight-bit data byte is converted to a 10-bit transmission character. Invented and patented by IBM Corporation, 8B/10B encoding is used in transmitting data on Fibre Channel, ESCON, and Gigabit Ethernet. 8B/10B encoding supports continuous transmission with a balanced number of ones and zeros in the code stream and detects single bit transmission errors.

### Access

CONTEXT [Security]

The opportunity to make use of an information system resource.

### Access control

CONTEXT [File System] [Security]

The granting or withholding of a service or access to a resource to a requestor based on the identity of the principal for which the requestor is acting.

### Access control list

CONTEXT [File System] [Security]

A persistent list that enumerates the rights of principals (e.g., users and groups of users) to access resources. Often used in file system context to denote a persistent list maintained by a file system and defining user and group permissions for file and directory access.

### Access control mechanism

CONTEXT [Security]

A security safeguard designed to detect

一种安全保护机制,设计它是用来在信息系统中检测和拒绝非授权的访问,并允许授权的访问。

### Access fairness (访问公平性)

语境【Fibre Channel】

指仲裁环的一种仲裁处理机制,该机制可以保证Fibre Channel仲裁环上任一节点不管其他节点的活动如何,总能够获得访问Fibre Channel仲裁环的权限。

### Access method (访问方法)

语境【Fibre Channel】【操作系统】

为传输数据而访问某个物理媒体的方法。

(在IBM公司的OS/390或者更早版本的操作系统中)包括文件组织方法(例如顺序、随机和索引等),和用以实现这些文件组织方法的操作系统软件。

### Access path (访问路径)

语境【存储系统】

当主机和存储设备通信时,数据需要在主机总线适配器、逻辑单元、从主机直到存储设备的通信线路、控制器和逻辑单元间传输,这些就共同构成了数据通道——即访问路径。一些配置支持单个设备使用多条访问路径。另请参考:multi-path I/O。

### ACL

语境【文件系统】【安全】

访问控制列表(access control list)的缩写。

### ACS

语境【备份】

自动化磁带系统(automated cartridge system)的缩写。

and deny unauthorized access and permit authorized access in an information system.

### Access fairness

CONTEXT [Fibre Channel]

A process by which nodes are guaranteed access to a Fibre Channel arbitrated loop independent of other nodes' activity.

### Access method

CONTEXT [Fibre Channel][Operating System]

The means used to access a physical transmission medium in order to transmit data.

(In IBM Corporation's OS/390 operating system and its precursors) A file organization method, such as sequential, random, indexed, etc., and the operating system software used to implement it.

### Access path

CONTEXT [Storage System]

The combination of host bus adapter, logical unit number, route through the host-storage interconnect, controller, and logical unit used by a computer to communicate with a storage device. Some configurations support multiple access paths to a single device. cf. multi-path I/O.

### ACL

CONTEXT [File System] [Security]

Acronym for access control list.

### ACS

CONTEXT [Backup]

Acronym for automated cartridge system.

### Active (有效/激活)

#### 语境【Fibre Channel】

指Fibre channel序列发起方所处的一种状态,即从序列的第一帧开始发送为始,直至序列的最后一帧发送完毕为止,序列发起方所处的状态称为active(激活)。

或指Fibre channel序列接收方所处的一种状态,即从接收到序列的第一帧为始,直至序列的最后一帧接收完成为止,序列接收方的状态为active。

### Active-active(主动—主动)部件 (components, controllers)

#### 语境【存储系统】

双主动组件或控制器的同义词。

### Active copper (有源铜缆)

#### 语境【Fibre Channel】

一种Fibre Channel物理连接类型,该类型的Fibre Channel物理连接可以支持最远达到30米的相邻设备铜缆连接。

### Active-passive (主动—被动) components, controllers 部件)

#### 语境【存储系统】

热备组件或控制器的同义词。

### Active component (有源组件)

一种需要电力支持其运行的系统组件。例如,在存储子系统中,有源组件可能包括供电电源、存储设备、风扇和控制器等。相反,机柜和机箱一般来说都不属于有源组件。

### Adapter (适配器)

将某个总线或者接口的定时信号和协议转换到另一个总线或者接口上的硬件设备。

### Active

#### CONTEXT [Fibre Channel]

The state of a Fibre Channel Sequence Initiator between the start of transmission of the first data frame of a sequence and the completion of transmission of the last data frame in the sequence. Also, the state of a Fibre Channel Sequence Recipient between the start of reception of the first data frame of a sequence and the completion of reception of the last data frame in the sequence.

### Active-active (components, controllers)

#### CONTEXT [Storage System]

Synonym for dual active components or controllers.

### Active copper

#### CONTEXT [Fibre Channel]

A type of Fibre Channel physical connection that allows up to 30 meters of copper cable between adjacent devices.

### Active-passive (components, controllers)

#### CONTEXT [Storage System]

Synonym for hot standby components or controllers.

### Active component

A system component that requires electrical power to operate. In a storage subsystem, for example, active components might include power supplies, storage devices, fans, and controllers. By contrast, enclosures and canisters are not normally active components.

### Adapter

A hardware device that converts the timing and protocol of one bus or interface to another.

一般地,适配器都被做成系统主板上的专用硬件或者内插卡的形式,因为这样可以使得计算机系统的处理硬件可以访问外围设备。例如,主机总线适配器就是一种适配器。在 Fibre Channel 语境中,适配器是使用最多的术语。另请参考: adapter card, host bus adapter, network interface card, NIC。

### Adapter card (适配器卡)

被做成印刷电路板的适配器。

### Adaptive array (自适应阵列)

语境【存储系统】

能够动态地(也就是在磁盘阵列正在运行的时候)改变数据虚地址到物理地址到物理地址映射算法的磁盘阵列。Hewlett-Packard 公司的 AutoRAID 磁盘阵列是一种自适应阵列,该阵列可以从镜像 RAID 转换成奇偶 RAID。

### Address (地址)

语境【存储设备】【存储系统】【SCSI】

【存储设备】能够惟一标识存储在磁盘或者磁带上数据块的固定长度的比特(数据位)表示模式。一般地,地址被认为是一个数字,这个数字可以通过应用某种映像算法来决定数据块的物理位置,将这种映像算法应用到磁盘块地址上可以得到相应的柱面号、磁头号 and 扇区号,使用这些数据可以定位相应的数据。磁带块地址一般是指单个线性的数据块流序列中某个数据块的相应位置。

【存储系统】能够惟一标识计算机存储器中某个位置(位、字节、字等)的固定长度的比特序列。

【SCSI】能够惟一标识出于通信目的而连接到 SCSI 总线上的设备的一个字节。

Adapters are typically implemented as specialized hardware on system boards, or as add-in cards, to enable a computer system's processing hardware to access peripheral devices. An example adapter is a host Bus Adapter. Adapter is the preferred term in Fibre Channel contexts. cf. adapter card, host bus adapter, network interface card, NIC.

### Adapter card

An adapter implemented as a printed circuit module.

### Adaptive array

CONTEXT [Storage System]

A disk array that is capable of changing its algorithm for virtual data address to physical data location mapping dynamically (i.e., while the array is operating). AutoRAID from Hewlett-Packard, which can change a given virtual disk representation from mirrored to parity RAID, is an adaptive array.

### Address

CONTEXT [Storage Device] [Storage System][SCSI]

A fixed length bit pattern that uniquely identifies a block of data stored on a disk or tape. Typically treated as a number to which a mapping algorithm can be applied to determine the physical location of a block of data. Applying this mapping algorithm to disk block addresses yields the cylinder, head, and relative sector number at which data may be found. Tape block addresses typically refer to the relative position of a block of data in a single linear stream of blocks.

A fixed-length bit pattern that uniquely identifies a location (bit, byte, word, etc.) in a computer memory.

[SCSI] A byte whose value uniquely

### Address identifier (地址标识符)

语境【Fibre Channel】

用以标识数据帧的源 (S\_ID) 和目标 (D\_ID) 的地址数值。FC-SW 标准包括一个表格, 以记录特殊地址标识符及其所代表意义。

### Address resolution (地址解析)

语境【网络】

通过一个给定的更加抽象的 LAN 或者 WAN 地址, 决定具体 MAC 地址的过程。

### Address Resolution Protocol (地址解析协议)

语境【网络】

任何用以将一个高层地址映像为一个低层地址的协议。通常使用缩写 ARP 来指示最常用的以太网地址解析协议 (如下所述)。

IP 网络层使用的将 IP 地址映像成具体低层硬件 (也就是 MAC) 地址的协议。在以太网上运行的 IP 协议有四种 ARP 消息: ARP 请求消息、应答消息、反向 ARP 请求消息和反向应答消息。

### Addressing (编址)

语境【存储系统】

用以惟一标识固定磁盘、可移动盒式存储介质或者计算机系统主存中存储区域的算法。另请参考: block addressing, C-H-S addressing, explicit addressing, implicit addressing。

### Administration host (管理主机)

语境【网络】

管理一个或者多个存储子系统 (例如文件管理器、磁盘阵列子系统、磁带子系统等)

identifies a device connected to a SCSI bus for purposes of communication.

### Address identifier

CONTEXT [Fibre Channel]

An address value used to identify the source (S\_ID) or destination (D\_ID) of a frame. The FC-SW standard includes a table of special address identifier values and their meanings.

### Address resolution

CONTEXT [Network]

The process of determining a MAC address, given a more abstract LAN or WAN address.

### Address Resolution Protocol

CONTEXT [Network]

Any protocol used to obtain a mapping from a higher layer address to a lower layer address. Abbreviated ARP. The Acronym ARP is most often used to refer to the Ethernet Address Resolution Protocol (below).

The protocol used by an IP networking layer to map IP addresses to lower level hardware (i.e., MAC) addresses. There are four ARP messages for IP running over Ethernet: arp requests and replies and reverse arp request and replies.

### Addressing

CONTEXT [Storage System]

An algorithm by which areas of fixed disk, removable cartridge media, or computer system main memory are uniquely identified. cf. block addressing, C-H-S addressing, explicit addressing, implicit addressing.

### Administration host

CONTEXT [Network]

A computer that manages one or more storage subsystems (e.g., filers, disk array

的计算机。

### Administrator (管理员)

负责安装、配置、管理计算机系统、网络、存储子系统、数据库或者应用程序的专业人员。

### Advanced encryption standard (高级加密标准)

语境【安全】

NIST (美国国家标准与技术协会) 制定的用以替代 DES 的加密算法。缩写为 AES。所选中的算法也被称为 Rijndael。

### Advanced Intelligent Tape (高级智能磁带)

语境【存储设备】

Sony 公司提出的一种磁带设备和媒体技术。

### AES

语境【安全】

高级加密标准 (advanced encryption standard) 的缩写。

### Agent (代理)

提供一种或者多种服务 (例如从 Internet 上收集信息) 的程序, 该程序代表或者作为一个主程序出现。

### Aggregation (聚集)

语境【网络】【存储系统】

将多个相似或者相关对象 (或者操作) 组合成一个独立整体的过程。有些时候, 为了得到更高的性能, 我们需要将几个磁盘或者磁带聚集成一个独立的数据流。两个或者更多的磁盘可以聚集成一个独立的虚拟磁盘以增加存储容量。两个或者更多的磁盘也可以聚集成 RAID 阵列以达到高可用性。两个或多个对于相邻位置数据的 I/O 请求可以聚

subsystems, tape subsystems, etc.)

### Administrator

A person charged with the installation, configuration, and management of a computer system, network, storage subsystem, database, or application.

### Advanced encryption standard

CONTEXT [Security]

A cryptographic algorithm designated by NIST as a replacement for DES. Abbreviated AES. The actual algorithm selected is also known as Rijndael.

### Advanced Intelligent Tape

CONTEXT [Storage Device]

A tape device and media technology introduced by Sony Corporation.

### AES

CONTEXT [Security]

Acronym for advanced encryption standard.

### Agent

A program that performs one or more services (such as gathering information from the Internet), acting for or as a principal.

### Aggregation

CONTEXT [Network] [Storage System]

The combining of multiple similar and related objects or operations into a single one. Several disk or tape data streams are sometimes aggregated into a single stream for higher performance. Two or more disks can be aggregated into a single virtual disk for increased capacity. Two or more disks can be aggregated into a RAID array for high availability. Two or

集成一个请求以最小化请求处理开销和旋转延迟。另请参考：consolidation。

## AH

语境【安全】

验证报头(authentication header)的缩写。

## AIT

语境【存储设备】

高级智能磁带 (advanced intelligent tape) 的缩写。

## Algorithmic mapping(算法映射)

语境【存储系统】

使用算法将某个数据编址空间转换为另一个编址空间的过程。如果某个卷是算法映射的,那么数据块的物理地址可以通过该卷的已知特征(例如条带深度和成员磁盘号等)计算得出。另请参考:dynamic mapping, tabular mapping。

## Alias (别名)

语境【Fibre Channel】

关于某个实体的更易懂的替代名字。有时候出于分组的目的,也会使用别名加以区别。另请参考:alias address identifier。

## Alias address identifier(别名地址标识符)

语境【Fibre Channel】

指某个N\_Port可以识别的、除了其自身的N\_Port标识符外的一个或者多个地址标识符。别名地址标识符用以组成N\_Port组,以使数据帧可以寻址一个N\_Port组,而不是单个N\_Port端口。另请参考:hunt group, multicast group。

more I/O requests for adjacently located data can be aggregated into a single request to minimize request processing overhead and rotational latency. cf. consolidation.

## AH

CONTEXT [Security]

Acronym for authentication header.

## AIT

CONTEXT [Storage Device]

Acronym for advanced intelligent tape.

## Algorithmic mapping

CONTEXT [Storage System]

Use of an algorithm to translate from one data addressing domain to another. If a volume is algorithmically mapped, the physical location of a block of data may be calculated from its virtual volume address using known characteristics of the volume (e.g. stripe depth and number of member disks). cf. dynamic mapping, tabular mapping.

## Alias

CONTEXT [Fibre Channel]

An alternate name for an entity that is more easily human-readable. Aliases are sometimes used for grouping purposes. cf. alias address identifier.

## Alias address identifier

CONTEXT [Fibre Channel]

One or more address identifiers which may be recognized by an N\_Port in addition to its N\_Port Identifier. Alias address identifiers are used to form groups of N\_Ports so that frames may be addressed to a group rather than to individual N\_Ports. cf. hunt group, multicast group.

## AL\_PA

语境【Fibre Channel】

仲裁环物理地址 (Arbitrated Loop Physical Address) 的缩写。

## Alternate client restore (备用客户机恢复)

语境【备份】

从一个不同于文件备份客户机的客户机中恢复文件的过程。

## Alternate path restore (备用路径恢复)

语境【备份】

从一条不同于文件备份路径的路径中恢复文件的过程。

## Always on (持续在线)

语境【通用】【Fibre Channel】

指系统持续保持的状态,或者通信链路持续保持活跃的状态。

【Fibre Channel】持续保持电源开的状态,或者持续保持有效的状态。在 Fibre Channel, ESCON 或者吉比特以太网语境中,“持续在线”描述了一种可操作链路(可以传输数据的连接)的状态。该状态下在链路上不断有 FC 帧,空闲 (idle) 或填充字传送,这与以太网的传输机制正好相反,在以太网中数据是突发性传输,而不发送数据时则处于侦听状态。从 Fibre Channel 管理的目的出发,持续在线支持在每个传输字粒度上的链路级错误检测机制。

## American National Standards Institute (美国国家标准化组织)

美国的一个致力于拟定志愿者标准的合作组织。经常缩写为 ANSI。ANSI 工作委员会中与存储网络联系最紧密的组织是 X3T10 (主要负责 SCSI 总线的 I/O 接口标准的拟定工作) 和 X3T11 (主要负责 Fibre Channel 接

## AL\_PA

CONTEXT [Fibre Channel]

Acronym for Arbitrated Loop Physical Address.

## Alternate client restore

CONTEXT [Backup]

The process of restoring files to a different client than the one from which they were backed up.

## Alternate path restore

CONTEXT [Backup]

The process of restoring files to a different directory than the one from which they were backed up.

## Always on

CONTEXT [General][Fibre Channel]

The state of always having power applied (systems) or of being continually active (communication links).

【Fibre Channel】A state of always being powered on and/or continually active. In a Fibre Channel, ESCON, or Gigabit Ethernet context, “always on” describes the state of an operational link. It is constantly transmitting either data frames, idles or fill words. This can be contrasted with bursty transmissions and listening for a quiet line in Ethernet. For Fibre Channel management purposes being “always on” allows link level error detection on each transmitted word.

## American National Standards Institute

A coordinating organization for voluntary standards in the United States. Often abbreviated ANSI. The ANSI working committees most closely aligned with storage networking interests are called X3T10 (principally responsible for

口标准的拟定工作)。

## **ANSI**

美国国家标准化组织 (American National Standards Institute) 的缩写。

## **ANSI T10**

美国国家标准化组织下属的 T10 技术委员会, 负责计算机与存储子系统或者存储设备之间的 SCSI 通信标准的拟定工作。

## **ANSI T11**

美国国家标准化组织下属的 T11 技术委员会, 负责 Fibre Channel 标准以及从计算机、存储子系统或者存储设备中存、取电子数据标准的拟定工作。

## **ANSI X3T10**

美国国家标准化组织下属的负责拟定访问和控制 I/O 设备标准的委员会。ANSI X3T10 主要负责 SCSI 类标准的拟定工作, 一般简称为 T10。

## **ANSI X3T11**

美国国家标准化组织下属的负责高性能 I/O 接口 (例如 Fibre Channel 和 HIPPI 接口) 标准拟定工作的委员会。一般简称为 T11。

## **API**

应用程序编程接口 (Application Programming Interface) 的缩写。

SCSI I/O interface standards), and X3T11 (principally responsible for Fibre Channel interface standards).

## **ANSI**

Acronym for American National Standards Institute.

## **ANSI T10**

The American National Standards Institute T10 technical committee, the standards organization responsible for SCSI standards for communication between computers and storage subsystems and devices.

## **ANSI T11**

The American National Standards Institute T11 technical committee, the standards organization responsible for Fibre Channel and certain other standards for moving electronic data into and out of computers and intelligent storage subsystems and devices.

## **ANSI X3T10**

The American National Standards Institute committee responsible for standards for accessing and controlling I/O devices. ANSI X3T10 is responsible for the SCSI family of standards. Often shortened to T10.

## **ANSI X3T11**

The American National Standards Institute committee responsible for standards for high performance I/O interfaces such as Fibre Channel and HIPPI. Often shortened to T11.

## **API**

Acronym for Application Programming Interface.