ADMINISTRATION GUIDE

DAS

DISTRIBUTED

AML

SERVER

Release1.30c8

Order no. DOC F00 010-B

5 DAS Messages

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1 Before You Begin Working with this Manual

1.1 Explanation of Symbols and Notes

The following symbols and highlighted passages draw attention to important information.



Explanation of these symbols (☞ “Hazard Alert Messages” from page 1 - 2)

Information/Advice

Information important for understanding this introduction.

“abcd” Headline e.g. section 2 “Configuration”
File name or directory names e.g. “etc/config”

`ABCD` Information displayed on screen

- Software messages displayed on screen
- Commands
- User (root)
- Variable names, including environment variables

`[abc]` Parameters which are optional are shown enclosed in square brackets `[ ]`

☞ Reference to a description

- either on another page (☞ page 1 - 1)
- or another manual (☞ DAS message manual)

abcd Variable

- Variable command parameters
- Variable values referenced in software

1.2 Hazard Alert Messages

We classify the hazards in several categories. The following table shows the relation of symbols, signal words, the actual hazard, and its possible consequences.

Symbol	Damage to ...	Signal word	Definition	Consequences
	**Material**	**ATTENTION!**	potentially damaging situation	possibly damaging to: • the product • its environment
		Information	tips for users and other important/useful information and notes	no hazardous or damaging consequences for persons or property
		-	identifies the address of your contact person	no hazardous or damaging consequences for persons or property

1.3 Assistance

If you cannot solve problems using this Manual, please contact your contract partner:

For Europe and Africa:

EMASS/GRAU Storage Systems GmbH
Eschenstrasse 3
89556 Boehmenkirch
Germany

For all other countries:

EMASS Inc.
10949 East Peakview avenue
Englewood, CO 80112
U.S.A.

We will be pleased to help you.

Europa und Afrika

Telefax: +(49) 73 32-83-367

Email: chd@emass-grau.de

CompuServe: 100142.3011

Telefon:

An Werktagen von 7.00 Uhr bis 19.00 Uhr:

+(49) 73 32-83-360

Zu allen anderen Zeiten:

+(49) 69 75 90 46

Amerika und Asien

Telefon: 1-800-827-3822

We'll be pleased to help you on.

1.4 About This Manual

1.4.1 Purpose

This guide presents the DAS ACI application program interface (API) routines.

1.4.2 Audience

This guide is intended for DAS AML Client Interface (ACI) application programmers.

If you cannot solve a problem,

- call a specialist
- ask for information from your service partner or EMASS/GRAU Storage Systems

1.4.3 Related Publications

You may wish to reference the following documents:

- AMU Installation Guide DOC E00 003
- AMU Problem Determination Guide DOC E00 007
- AMU Reference Guide DOC E00 005
- DAS Interfacing Guide DOC F00 011

On the Installation you found the lastest informations, changes and known bugs. The files are:

- RELEASE.DAS DAS-Server
- RELEAS:ACI DAS-Client

1.5 Copyright

1.6 Product Observation

We are obliged by law to monitor our products even **after** delivery to the customer.

Therefore please communicate every point of interest.

- modified set-up data
- experiences with the DAS software
- repetitive faults
- difficulties with this manual

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2 Overview

2.1 What is DAS?

The Distributed AML Server (DAS) is a software product with both client and server components. The server software modules support the OS/2 operating system platform and the client software modules support the UNIX operating system platforms and communicate from UNIX clients to the OS/2 DAS server (AMU controller PC) across a TCP/IP connected network using remote procedure calls (RPC) to request DAS services.

DAS allows client systems to request actions on selected media within the AML system. DAS performs primarily the following requested actions to:

- manage client access,
- mount media in a drive,
- dismount media from a drive,
- insert media into the library,
- eject media from the library,
- inventory the library
- manage scratch media handling.

DAS provides two different types of client services:

- Basic Services
  - allow authorized users to connect to the DAS server
  - allow requests to mount and dismount media
- Complete Services (Administration Services)
  - allow authorized users to control the complete set of DAS services for
  - Client management,
  - DAS management,
  - Media management,
  - Scratch management.

The following sections and chapters provide an overview of the DAS software, guide through the DAS installation and configuration, list all DAS administration commands, and explain DAS informational and error messages. The intent of this document is to provide a step-by-step guide to provide DAS clients access to the AML library through a network connection to the AMU controller PC, using the TCP/IP communications protocol to perform remote procedure calls (RPC) to request DAS services.

2.2 DAS Working Environment

The DAS software consists of the AML Client Interface (ACI) component and the DAS server component.

The DAS software enables 50 clients, using different hardware platforms, to control the AML robotics system. The DAS server itself executes on the OS/2 controller PC and clients communicate with the DAS server via DAS administration commands or client application software, which links with a DAS-ACI libary.

ACI users do not need knowledge about the underlying network processing taking place on their behalf. Users are only required to provide basic information of the AML operation. It is the task of the DAS server to convert the RPC requests from its clients into complete commands for AMU.

The DAS server is designed to handle multiple clients, thus allowing the AML to be shared among several possible hosts (UNIX, MVS). This setup is shown below.

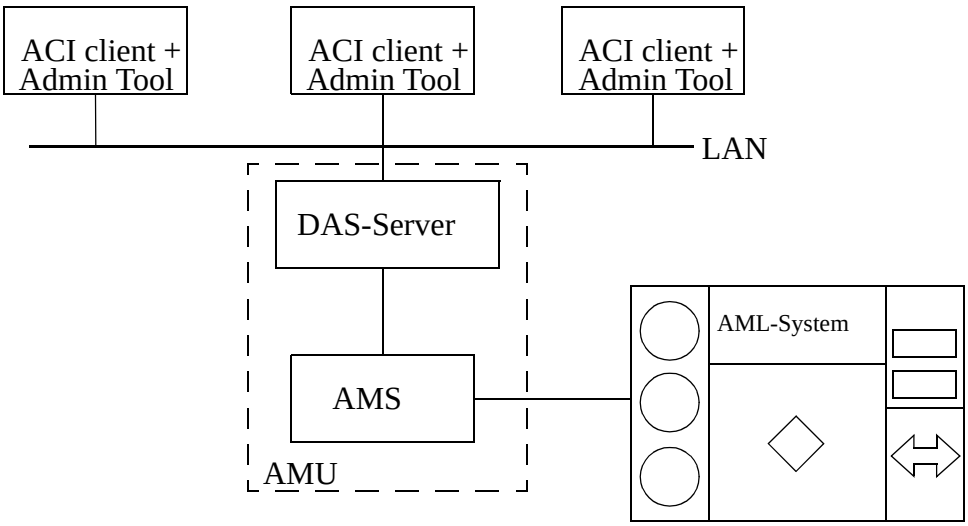


Fig. 2-1: Client-Server Structure on AML

2.2.1 DAS Components

The DAS software components consist of the DAS server component and AML Client Interface component. The DAS server component itself consists of three modules:

- the RPC server,
- the DAS manager,
- the request manager.

The DAS RPC server accepts requests and sends them to the DAS manager. The DAS manager verifies access privileges, verifies command eligibility and forwards the request to the request manager. Now the AMS command is built and sent to the AMS.

Interaction among the components is shown in the figure below:

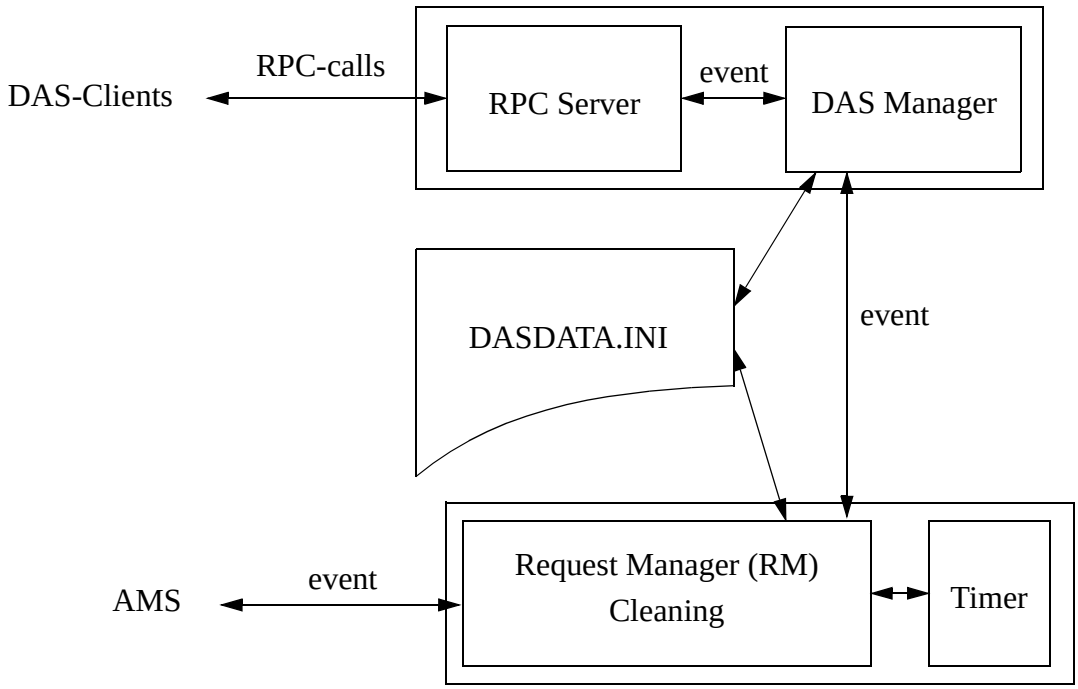


Fig. 2-2: Module in the Distributed AML Server

2.3 DAS Server Features

The DAS server software issues all requests from the DAS clients to the AMU AML management software (AMS) and provides for DAS administration. In particular, the DAS server performs the following tasks:

- Communication with the ACI
- Communication with the AMU AMS
- Configuration management
- Client access validation
- Request validation
- Resilience and recovery
- Mount and dismount of media resident in the AML
- Foreign media mount and dismount
- Media insertion into the AML
- Media ejection from the AML
- Scratch pool management
- Drive cleaning
- Hierarchical and dynamic storage organization

2.3.1 Communication with the ACI

Communication between the ACI client and DAS server is performed using Remote Procedure Calls (RPC). The eXternal Data Representation (XDR) protocol is used to handle data type conversion issues between machines, thus ensuring that the ACI may be ported to a different hardware architecture with minimal effort.

There may be considerable delays (of the order of several seconds, or even minutes when all drives are occupied) between a request being sent to the AML and its completion response. As a result, the implemented RPC technique involves an initial exchange to make the request, followed by a call back of the ACI by the DAS server when the request has been completed. RPC requests are routed to the DAS server by the TCP/IP port mapper to avoid port conflicts with other software packages.

2.3.2 Communication with the AMU

The DAS server communicates with the AMS through an event notification mechanism. Once a command has been sent, a timer function supervises that the command is serviced within reasonable time. A command may be aborted or retried if a command does not complete.

When a successful command response is received from the AMS, the client is notified immediately. If an error occurred, the response is analyzed and possibly retried. If recovery is not successful, a command failure is returned to the calling client.

2.3.3 Configuration Management

The AML can be configured with variable numbers of storage positions, drives and I/O units. Most of this detailed hardware knowledge is stored only by the AMS (☞ AMU Reference Guide), but the DAS server has access to the AMS database to determine configuration and media availability.

Nevertheless, the DAS server requires component configurations which are read during DAS server start up. These configuration parameters are:

- DAS operational and access parameters
- Client system configuration for
  - drive,
  - volser,
  - I/O unit and
  - scratch pool access rights
- Cleaning media information

All other configuration information necessary for normal operation is obtained through status requests from the AMS.

Information

An AML can have multiple client systems connected to it. Each client could have access to all the hardware components of the AML or be restricted to some subset of them. The DAS server supports both modes of operation. Refer to your client application documentation for access restrictions.

2.3.4 Client Access Validation

Clients may be restricted to use a subset of the AML resources. Client requests are therefore validated in the following manner:

- Client registration validation: Only authorized clients with configured TCP/IP address and client name may request services.
- Client access permission validation: Verify that valid client has service permission for issued request.
- Resource access validation: Check whether the client has been granted access to the media, drive, I/O unit and/or scratch pool for which the request has been made.

Information

The ability to restrict clients to media, drive, I/O unit, and scratch pool ranges will allow multiple clients/hosts to share an AML with limited or no access to each other's data.

2.3.5 Request Validation

Client requests are validated in the following manner:

- Validate the format of the client requests such that the AMS should receive only well formed and syntactically correct requests.
- Perform semantic checks to ensure that requests for drives or media are valid for the current state of the drive or media.

2.3.6 Resilience and Recovery

As requests from the client go through the DAS processing cycle, their progress is recorded such that after recovery from a communications failure, the request's processing can be resumed without unnecessary repetition or loss of the request. Actions performed when a request is received include:

- Record request (temporary in RAM).
- Send acknowledgment to the requesting client.
- Forward request to the AMS.
- Receive AMS command answer.
- Inform client of request status.

When a client's operation is interrupted, the DAS server ensures that any outstanding requests and operations in process associated with that system are canceled to ensure that the system restarts operations from a known state. The DAS server also maintains certain state tables on disk where there is a need to maintain information or statistics to recover after a system shutdown.

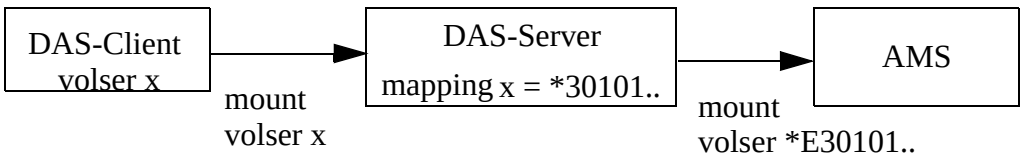
2.3.7 Media Mount and Dismount

The primary function of the DAS server is to pass requests to mount or dismount media stored within the AML to and from drives.

2.3.8 Foreign Media Mount and Dismount

Not all media needs to reside within the AML and may be stored on shelves. If this media needs to be accessed temporarily, it may be introduced into the archive to service a particular read or write operation and then it is removed from the AML after the requested operation completes. Such media is called foreign media as it does not get introduced in the AMU archive catalog as long term storage. For example, media may have no barcode, or may be from another site and have a barcode number that is already defined in the AML.

DAS obtains details about which compartments of the I/O unit are used for handling foreign media by the AMU. Once the foreign media has been registered with the DAS, it can be used within the AML for mount and dismount operations. (☞ AMU Reference Guide for description of the I/O unit coordinates that defines an foreign media location.)



2.3.9 Media Insertion into the AML

Whenever new media is needed in the AML either to meet the demand for scratch media or to replace rarely used media with those that are in more demand. The DAS server allows clients with complete acces rights (administrators) to introduce such media into the AML either one at a time or in batches.

2.3.10 Media Ejection from the AML

If media needs to be ejected from the AML for vault storage or to make room for media that is used more frequently, for media cleaning, or maintenance of the bar-code, the DAS server allows administration to eject such media either one at time or in batches.

If the batch being ejected is larger than the available eject area, the DAS server prompts the operator on the AMU controller to remove media when the area becomes full.

2.3.11 Scratch Pool Management

The DAS server provides for configuration of scratch pools that contain media of the same type. Default scratch pools exist for each configured media type, but may also be created as specific named scratch pools for client use.

Scratch pools contain one or more volumes which allow clients to request media from such pools, without the need of tracking scratch media volsers themselves. Scratch media may be added to the pools or maybe removed from the pool for client use.

The pools provide different applications to use a range of medias together. With a command set you can

- create a pool for a media (each media type need its own pool)
- add medias to the pool (e.g. on the expiration date of the data on the media)
- remove medias from pool (media was mounted and now contains data)
- check the size of the pool

2.3.12 Drive Cleaning Operation

The DAS server records the number of times a drive had media mounted and automatically schedules cleaning of that drive using a defined cleaning cartridge. The cleaning cartridge can only be used a certain number of times before it must be replaced. The DAS server automatically ejects cleaning media from the AML once this limit has been reached. The eject operation will always be performed to the eject area named E01, regardless of client access configurations.

Information

In each AML you have to configure an eject area named „E01“ with all media types.

Cleaning media needs to be defined in the DAS configuration file „CONFIG“. If defined, the DAS server will determine whether a drive cleaning operation needs to be scheduled according to the drive usage configuration in the configuration file.

The default drive usage uses standard parameters for cleaning count (☞ page 3 - 16). If you want use to another count, you have to change the clean parameters in the „CONFIG“ file.

2.3.13 Hierarchical and Dynamic Storage Organization

The DAS server supports the arrangement of media in the AML either hierarchically, where ascending numbers in a media serial number range map one-to-one to ascending location coordinates, or dynamically, where the arrangement of media is based on the next available free location at the time the media is inserted. Such storage organization is determined by the AMS configuration for all storage locations (☞ AMU Reference Guide).

3 Installation and Configuration

3.1 Preparation

Before installing and configuring DAS, it is necessary to collect configuration values which are needed for the AMU AMS, DAS and TCP/IP configuration process. Some information may be obtained from the LAN administrator, other information is gathered during the installation and configuration process.

A configuration worksheet in Appendix (☞ page 6 - 3) assists in collecting necessary information. All configuration values should be recorded in this worksheet for each individual client for future reference.

Make a copy of the worksheet for each client and obtain the following configuration information:

- Determine the **TCP/IP addresses** of the **AMU** controller PC and the network name associated with the IP address for TCP/IP configuration and host name resolution purposes.
- Determine the **TCP/IP address** of each **client** (the OS/2 client/administrator has the IP address of the AMU controller PC), and associate a name with each individual client address. This name is user chosen and does not have to match the IP name defined to the network. (The OS/2 client/administrator uses a name `AMUCLIENT` by default.)
- Determine the clients **access permissions**, either `basic` or `complete`.
- Determine the clients **access behaviour parameters**, which provide clients with the ability to avoid volume contention in heavily used environments and to reduce command traffic to dismount media, or to insist on command execution and wait times.
- Determine the clients **insert and eject areas**.
  Acces to the insert and eject areas may be configured individually or may overlap among clients.
- Determine the **drive assignments** for each client. Clients may get a range of drives assigned for access or may list them individually. Drives may be assigned to individual clients or shared among clients.
- Determine the clients **volser ranges**. Clients have a set of volumes, specified by volume serial numbers (volsers), assigned for access. Also Foreign Mount Medias must be defined in the volser range.
- Determine the clients **scratch pool names**. Clients may use scratch pool definitions for each supported media type to which only individual clients or several clients have access. Volumes assigned as scratch media may be associated with a given scratch pool or assigned to a default scratch pool, if a pool name is not specified. In such case, the scratch pool name must be specified as `DEFAULT` in the DAS configuration file.

3.2 AMS Configuration

The AMS configuration needs to match drive names and names of Logical Ranges in the I/O unit. Drive names are configured in the entry field **Description** for all drive names accessed by DAS, and names of the insert- and eject areas are configured with the **Logical Ranges** definitions from the accessed window **EIF-Configuration**.

The configuration is performed from the AMS Operating console from the menue **Service** with the command **Configuration...**.

Several configuration icons need to be selected and configured to provide a DAS interface configuration

- Drive icon(s)
- EIF icon(s), if physically present.

In order to allow communication between the AMU archive management software, DAS server and DAS clients, DAS accessible drives, and Insert/Eject areas need to be defined:

Information

The following steps describe the AMU (AMS and DAS) configuration. The information provided is an example to explain DAS AMS configuration and necessary parameters matching with the DAS configuration file. (AMS configuration for the specific AML type ☞ AMU Reference Guide, necessary TCP/IP configuration ☞ AMU Installation Guide).

a) Start the AMS and logon to the AMU from the **Service** menu

b) From the **Service** menu open the **Configuration** window

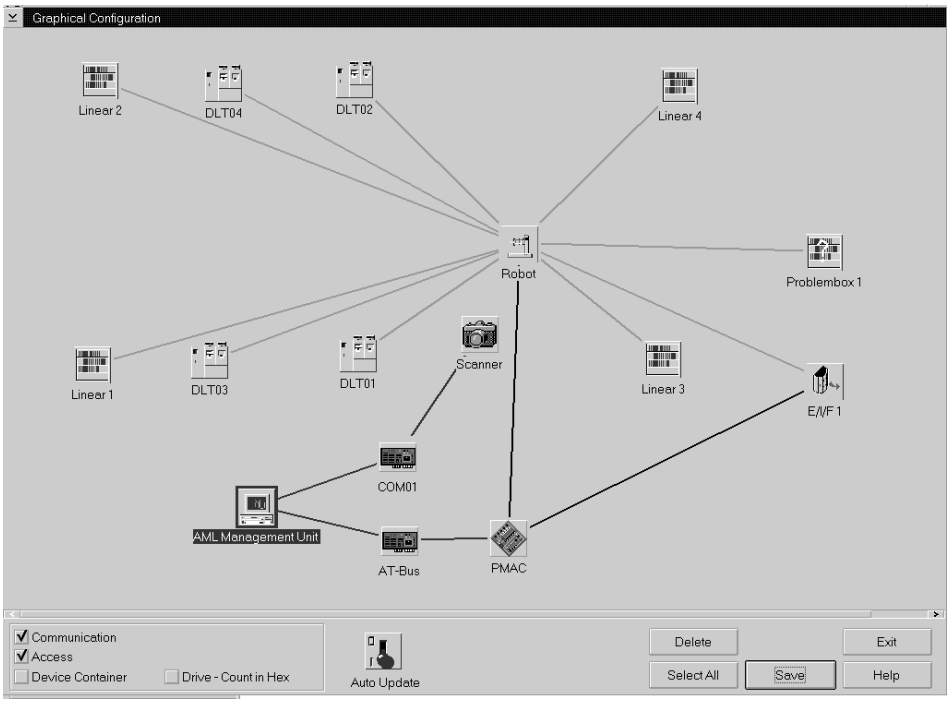


Fig. 3-1: Window „Graphical Configuration“

c) Select a drive icon that will be accessed by the DAS server and double click the left mouse button to display the drive configuration.

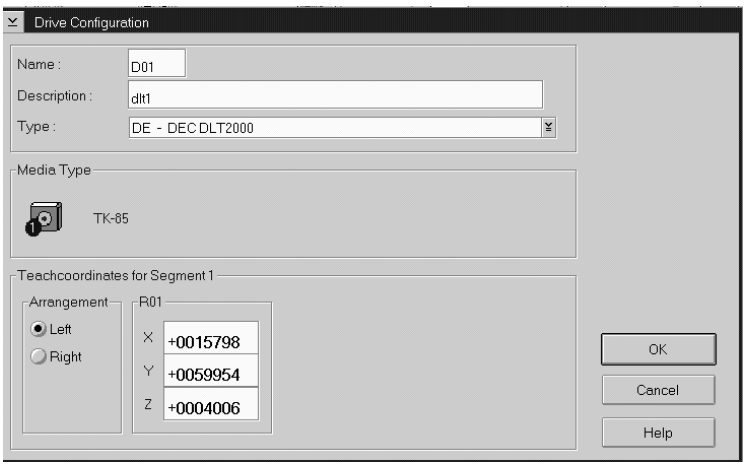


Fig. 3-2: Window „Drive Configuration“

d) Type the drive name in the **Description** entry field. The name needs to match the drive name defined for client access in the file „C:\DAS\ETC\CONFIG“.

e) Press **OK** to accept the drive configuration.

Information

Repeat steps c, d, and e for every drive icon configured for DAS access.

f) Select an **E/I/F** icon and double click the left mouse button to display the **EIF-Configuration**.

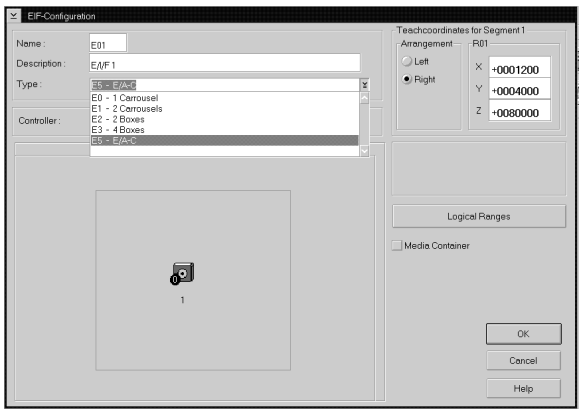


Fig. 3-3: Window „EIF-Configuration

g) Press the **Logical Ranges** button to display the **Logical Ranges** window.

.

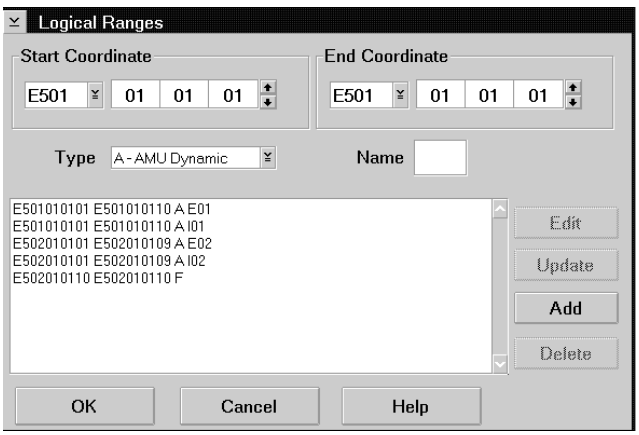


Fig. 3-4: Window „Logical Ranges“

h) Select a **Start Coordinate** and **End Coordinate** to configure one or more insert areas. Select a **Type** of **AMU-Dynamic** and enter an insert area **Name** like I01 for the first insert area, I02 for the second, and so on. The **Name** needs to match the inserts definition in the DAS „CONFIG“ file's client configuration(s).

i) Press the **Add** button to add the insert area to the configuration.

j) Select a **Start Coordinate** and **End Coordinate** to configure one or more eject areas. Select a **Type** of **AMU-Dynamic** and enter an eject area **Name** like E01 for the first insert area, E02 for the second, and so on. The insert area name needs to match the ejects definition in the DAS „CONFIG“ file's client configuration(s).

k) Press the **Add** button to add the eject area to the configuration.

l) Press **OK** to accept the Logical Ranges.

m) Press **OK** to accept the EIF-Configuration.

n) Press the **Save** button from the **Graphical Configuration** window to save the configuration choices in the file „AMUCONF.INI“.

o) Press the **Exit** button to return to the main AMS window.

p) Select **Service.. Archive.. Edit Volser Ranges** and press **Update EIF.**

Information

The configuration will not take effect unless the AMS has been shut down and restarted.

If you have not yet created the archive, it is now time to Create Archive.

q) Select **Shutdown only ABBA-System** in the **File** menu

3.3 DAS Server/Administrator Installation

The DAS server software for OS/2 is distributed as compressed file on a single disk, together with an installation program . The server software provides the interface to the AMU archive management software and provides for DAS administration via the OS/2 DAS client component.

Although the DAS server software may be installed automatically with the „DASINST.CMD“ installation program, provided on the DAS 1.30 distribution diskette, it may also be installed or updated manually. The following steps install the code on the AMU controller PC’s hard disk:

3.3.1 Installation DAS-Server Software with „DASINST.CMD“

a) Insert the DAS software disk into drive A: and call the installation program

```
C:> A:\dasinst
```

b) Select the installation option

```
 GRAU Storage Systems, AMU-Service, 01.08.96 12.00

      I N S T A L L A T I O N     U T I L I T Y
             DAS  -  V E R S I O N  1.30

1 = New Installation of DAS Server Software
    (Installation without backup of an older Version)

2 = DAS Software Update from DAS 1.30 to 1.30

3 = DAS Software Update from DAS 1.20x to 1.30

4 = End

Select an Option:
```

c) Follow the steps in the installation program

d) Edit the file „CONFIG.SYS“ (☞ page 3 - 7)

e) Edit the file „STARTUP.CMD“ (☞ page 3 - 17)

f) Remove the disk from drive A:

g) Shutdown the OS/2 and restart

3.3.2 Installation DAS-Server Software manually

a) Backup the existing software (if available) and delete all files in the directory „C:\DAS“

b) Create a DAS root directory on the drive `C:`

```
C:> md das
```

c) Change to the DAS directory.

```
C:> cd das
```

d) Insert the DAS software disk into drive A: and copy the DAS software into the DAS directory.

```
C:\DAS> copy a:\*.zip
```

e) Remove the disk from drive A:

f) Unzip the compressed DAS software.

```
C:\DAS> c:\amu\pkunzip2 -d -o *.zip
```

The following steps are required to permit the OS/2 administrator client access to the server module:

g) Edit the „C:\ONFIG.SYS“ file.

h) Add or modify the following statements to the „CONFIG.SYS“ file:

```
LIBPATH=...C:\DAS\BIN;
SET DAS_SERVER=workstation_network_name
SET DAS_CLIENT=amuclient_name
```

where *workstation_network_name* is the name of the controller associated with the TCP/IP address (default: `AMU`), and the *amuclient_name* is the name of the OS/2 administrator client as defined in the DAS configuration file (default: `AMUCLIENT`).

i) Save the „CONFIG.SYS“ and reboot your AMU controller PC for the changes to take effect.

Information

Remove the „`C:\DAS\ADMIN`“ statement from the `LIBPATH` statement if DAS 1.20 had been installed previously.

j) Configure your DAS server environment as described in the following sections.

3.4 DAS Server Configuration

The DAS server software requires configuration for the correct environment. All DAS configuration parameters are configured in the file „C:\DAS\ETC\CONFIG“ . (A sample configuration file „CONFIG.SAMPLE“ is also copied to the C:\DAS\ETC directory and may be referenced or copied to the file „CONFIG“ for further updates.)

Follow the steps below to configure the DAS server:

a) Copy the example to „CONFIG“

```
C:\> copy \das\etc\config.sample \das\etc\config
```

b) Edit the file „CONFIG“ (☞ page 3 - 9)

3.4.1 DAS Options

Avoid Volume Completion

Access behaviour parameters, which provide clients with the ability to avoid volume contention in heavily used environments and to reduce command traffic to dismount media, or to insist on command execution and wait times. The `avc` (avoid volume contention) option fails client requests to mount a volume, if the volume is currently in use. If `no_avc` (default) is selected, the client request is suspended until the volume becomes available.

Dismount

The `dismount` option indicates whether clients issue dismount requests when finished using a volume. The application software documentation should provide information whether dismount commands are sent. If dismount commands are not issued, the `no_dismount` option (default) should be specified, to allow DAS to issue interleaved dismount commands between mount requests.

3.4.2 DAS Configuration File „CONFIG“

The information in the file consists of a series of statements in the following syntax:

```
Statement_name Keyword_name1 = Keyword_parameter1,
               Keyword_name2 = ...
```

The layout of the configuration file is free-format; but in the interest of clarity it is recommended that a format similar to that in the sample configuration file is adhered to. Annotation can be added to the configuration file using the '#' symbol. For example:

```
 # This whole line is a comment
client clientname = AMUCLIENT,
         hostname = AMU,# Comment form here onwards
```

Range Definition

Most of the client definition is involved in defining a logical partition of the AML for the client. This is achieved by describing the resources in the AML that are available to the client in ranges. A range is

- either a list of items or
- a consecutive series and
- maximum 100 characters long.

```
range =    item |
           item, item, ... |
           item-item |
           ALL          # included all values
```

Volser Range Definition

- A volser may be up to 16 alphanumeric characters long.
- Valid alphanumeric characters are upper and lower case alphabetic characters and the digits 0 to 9.
- The volser name or volser range must have a character by character type match defined (e.g. ABC001 - ABC999 or 0001001 - 5638516 or 00aaAAZ - 99zzZZZ).
- Ranges „a - Z“ including the digits 0 - 9.

3.4.3 Statement Syntax

As previously mentioned configuration file statements consist of the statement name followed by a series of keyword parameters.
Keyword parameters can be entered in any order.

3.4.4 The Client Statement

Syntax

```
client client_name = client-name

     , hostname = workstation_network_name |
     , ip_address = ip address
    [, requests =(basic | complete)]
    [, options=([avc|no_avc][,dismount|no_dismount])]
    [, volumes = ((volume range), (volume range),...)]
    [, drives = ((drive range))]
    [, inserts = ((insert area range))]
    [, ejects = ((eject area range))]
    [, scratchpools = (( scratchpools range ))]
```

Description

A client statement is required for each client using the DAS. A client of the DAS can be a software application, such as an archive or migration product or an administrator.

Keyword	Explanation
client-name	The name of the client for authorization. The name is not the IP address of the client. The following name rules apply: • A client name may be up to 64 alphanumeric characters long. • Valid alphanumeric characters are upper and lower case alphabetic characters and the digits 0 to 9 • The name is case sensitive.
hostname	The name of th e TCP/IP node defined in the network domain name server or in a file hosts. (the name must be resolveable during the DAS start) The following name rules apply: • A client name may be up to 64 characters long. • Valid characters are upper and lower case alphabetic characters, the digits 0 to 9 and up to 6 dots (.).

Keyword	Explanation
ip_address	The ip address of the host where the client will reside The IP adress has the format xxx.xxx.xxx.xxx .
requests	The request access level of the client. This can be `basic` or `complete`. Basic access allows clients to issue mount and dismount commands only; complete access allows clients to perform all supported DAS commands, giving these clients administration privileges. (The OS/2 client/administrator should have complete access permissions.)
options	Options are : dismount/no_dismount (automatic keep commands) avc /no_avc (avoid volume contention, wait for used already medias) (☞ page 3 - 8)
volumes	Volumes are the volume serial numbers (Volser) on the medias A volume may be up to 16 alphanumeric characters long. Valid alphanumeric characters are upper and lower case alphabetic characters and the digits 0 to 9 Up to 10 volume ranges, enclosed in parentheses and separated by commas. (☞ "Range Definition" from page 3 - 9)
drive range	Drive assignments for each client. A range of drives, enclosed in parentheses (☞ "Range Definition" from page 3 - 9) For example, (DRV_VHS, DRV_DLT, DRV_3480), or (DLT1 - DLT4). The drive names need to match the **Description** of drive names in the AMS drive configuration windows. A single drive range, with drive names of up to 10 characters may be listed. An administrator client should configure all drives, which may be indicated with the word `ALL` in the DAS configuration file.
insert area range	The range which describes the insert areas available to the client (☞ "Range Definition" from page 3 - 9) The AML configuration for all I/O units provide logical insert area definitions, which may be defined over the complete I/O unit, or may be defined for portions of the physical unit. The smallest logical insert area may be a single storage position within the I/O unit. For example, (I01, I02, I03) or (I01 - I03). The Insert areas need to match the names in the AMS Logical Ranges configuration windows. Acces to the insert areas may be configured individually or may overlap among clients.
eject area range	The range which describes the insert areas available to the client (☞ "Range Definition" from page 3 - 9) The AML configuration for all I/O units provide logical eject area definitions, which may be defined over the complete I/O unit, or may be defined for portions of the physical unit. The smallest logical eject area may be a single storage position within the I/O unit. For example, (E01, E02, E03) or (E01 - E03). The Insert eject need to match the names in the AMS Logical Ranges configuration windows. For eject all clean medias are the eject area `E01` necessary. Acces to the eject areas may be configured individually or may overlap among clients. An administrator client should configure all areas, which may be indicated with the word `ALL` in the DAS configuration file.

Keyword	Explanation
scratch pools range	The range with define areas in the database for scratch handling for the client (☞ "Range Definition" from page 3 - 9) Clients may use scratch pool definitions for each supported media type to which only individual clients or several clients have access. Volumes assigned as scratch media may be associated with a given scratch pool or assigned to a default scratch pool, if a pool name is not specified. In such case, the scratch pool name must be specified as DEFAULT in the DAS configuration file. Each media type has a different default scratch pool association. Named scratch pools require that they also only contain a single media. (Note that D2 small and medium media types, as well as small and medium DTF media, have a single DEFAULT pool assigned to D2 and DTF, and separate named pools should be assigned, if both media types, small and medium, are being used. The following scratch pool name rules apply: • A pool name may be up to 16+1 alphanumeric characters long. • Valid alphanumeric characters are upper and lower case alphabetic characters and the digits 0 to 9. • Pool names may be defined for each media type configured in the AML. • The default pool names are reserved and consist of the word DEFAULT+ plus AMU media type (e.g. DEFAULTC0) (☞ page 7 - 7). An administrator client should configure all supported named and default scratch pools, which may be indicated with the words DEFAULT and ALL in the DAS configuration file.

3.4.5 The Clean Statement.

Syntax

```
clean volumes = (volume serial number)
    , type = media-type
    , cart_usecount = use count
    , dismount_time = dismount  time
```

Description

Each clean statement defines one cleaning volume. A cleaning volume is used to clean the read / write head mechanism of a drive. The DAS will periodically (based on the number of mounts) mount a cleaning volume on the drive and after a fixed time attempt the dismount it.

Some drives, for example, D2 drives, are never automatically cleaned as the mechanism is too delicate. However most drives can be cleaned in this manner.

When a drive has serviced a configurable number of volumes the DAS looks for a cleaning volume of the correct media type to mount on the drive. If one exists, it is mounted. If not the problem is reported to the DAS message daemon. The drive can still be used but the DAS will report the problem each time.

The volume has a use count, which refers to the number of times the cleaning volume is mounted. When this limit is reached, the DAS ejects the volume to the default eject area, E01. Once ejected the DAS will attempt to use another cleaning volume of the same media type. Therefore it is advisable to define at least two or three volumes of each media type, perhaps more if drive use is high.

Keyword	Explanation
volume serial number	This is the serial number of the volume to be treated as cleaning volume
media-type	The media type of the cleaning volume. (☞ page 7 - 7)
use count	The number of times the volume can be used before being ejected from the AML
dismount time	The delay time between the mount of the clean volume and a dismount attempt

3.4.6 The Clean_interval Statement

Syntax

```
clean_interval
     [TRAVAN-DRIVE = number (0)]
     [,DAT = number (7)
     [,AMPEX = number (0)
     [,HP-1300 = number (0)
     [,HDS-7480 = number (50)
     [,HDS-7490 = number (50)]
     [,IBM-3995 = number (50)
     [,IBM-3480 = number (50)]
     [,IBM-3480-ACL = number (50)
     [,IBM-3490 = number (50)]
     [,IBM-3590 = number (50)]
     [,TANDEM-5180 = number (50)]
     [,TANDEM-5190 = number (50)]
     [,EXABYTE = number (0)]
     [,STK-4480 = number (50)]
     [,STK-4490 = number (50)]
     [,STK-4890 = number (50)]
     [,OD-REFLECTION = number (0)]
     [,OD-512 = number (0)]
     [,METRUM-VHS = number (0)]
     [,DLT-DRIVE = number (0)]
     [,PHILIPS-LMS = number (50)]
     [,CDROM = number (0)]
     [,AKEBONO-DTF = number (0)]
     [,BETACAM-DRIVE = number (0)]
```

Description

The clean_interval statement sets the frequency of clean volume mounts to a particular drive type.Most drives detect when they need cleaning themselves. If a drive reaches this point, manual intervention is required to mount a cleaning volume. It is therefore better to pre-emptively clean the drive using the DAS, automating the cleaning process.
If a client of the DAS offers a drive cleaning facility, it is probably better to use it and switch off the DAS cleaning process. This can be done by setting the mount count for the drive type to zero.
The client application will be better informed about drive use, as it is the user of the drives.
The DAS can only know the number of mounts made to a drive. If however multi-

ple applications are sharing drives it may be better to revert to the DAS as it will have an overall view of drive use. The parameter in the brackets „()“ will used by default without a clean interval statement.

Keyword	Explanation
number	Is the frequency of mounts that will take place before a clean volume is mounted on the drive. If 0 is set, no cleaning will be attempted for any drive of that drive type

3.4.7 Example DAS\ETC\CONFIG.SAMPLE

.

```
client  client_name = AMUCLIENT,
    hostname = AMU,
    requests = complete,
    volumes = ((ALL)),
    drives = ((ALL)),
    inserts = ((ALL)),
    ejects = ((ALL)),
    scratchpools = ((ALL))

client  client_name = client,
#   ip_address = xxx.xxx.xxx.xxx,
    hostname = clienthost,
    requests = complete,
    options = (avc,dismount),
    volumes = ((xxxxxx - xxxxxx)),
    drives = ((xxx,xxx)),
    inserts = ((I01)),
    ejects = ((E01)),
    scratchpools = ((ALL,DEFAULT))

client  client_name = dasadmin,
    hostname = unixhost,
    requests = complete,
    volumes = ((ALL)),
    drives = ((ALL)),
    inserts = ((ALL)),
    ejects = ((ALL)),
    scratchpools = ((ALL))
```

```
# clean volumes = (CL0001),
#   type = 3590,
#   cart_usecount = 100,
#   dismount_time = 140

# clean_interval
#   TRAVAN-DRIVE    =  0,
#   HDS-7480        = 50,
#   HDS-7490        = 50,
#   IBM-3480-ACL    = 50,
#   IBM-3480        = 50,
#   IBM-3490        = 50,
#   AMPEX           = 0,
#   EXABYTE         = 0,
#   DLT-DRIVE       = 0,
#   DAT             = 7,
#   HP-1300         = 0,
#   IBM-3995        = 0,
#   STK-4480        = 50,
#   STK-4490        = 50,
#   IBM-3590        = 50,
#   OD-REFLECTION   = 0,
#   OD-512          = 0,
#   PHILIPS-LMS     = 50,
#   TANDEM-5180     = 50,
#   TANDEM-5190     = 50,
#   METRUM-VHS      = 50,
#   CDROM           = 0,
#   AKEBONO-DTF     = 0,
#   BETACAM-DRIVE   = 0,
```

3.5 DAS Server Invocation

Once the DAS, TCP/IP, and AMU configuration have been completed, the DAS server is initialized and started with the following steps:

a) Make sure the AMU archive management software is running and the resolving of the hostnames works fine (file hosts or Domain Name Server).

b) Select an OS/2 window from the Desktop and change the directory to C:\DAS, as shown below:

```
C:> cd \das
```

c) At the prompt, type tcpstart and make sure that TCP/IP gets configured and the port mapper program gets started.

```
C:\das> tcpstart
```

d) Type dasstart to start the DAS server („bin\das2.exe“).

```
C:\das> dasstart
```


Information

The DAS server may be started automatically by placing the following lines in the OS/2 „STARTUP.CMD“ file, which is called on each controller boot operation.
The command file sample is saved in „C:\DAS\TOOLS\STARTUP.SAMPLE“

```
call tcpstart
das\tools\os2sleep 20

CD \AMU
START CON
START KRN

cd \das
tools\os2sleep 20
call dasstart
cd bin
start "DAS/2 AmuClient"
exit
```

3.6 DAS Client Installation and Configuration

3.6.1 DAS Client Installation

DAS Client software is available for different operating systems (☞ DAS Interfacing Guide). The software will be distributed on

- DDS cartridge (4 mm)
- Exabyte cartridge (8 mm)
- 3 1/2“ diskette

and

- Harddisk of the AMU-PC (directory „C:\DAS\ACI“)

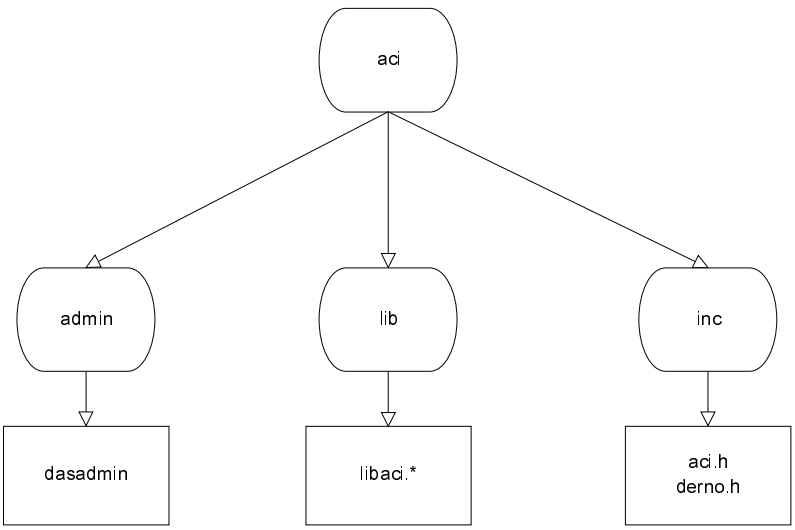
The file name of DAS-Client has the following structure:

`acixxx.yyy.zzz.tar` or `acixxx.yyy.zzz.tar.Z`

`xxx` ACI-Version (e.g. 130B2)
`yyy` Operating system (e.g. aix)
`zzz` Version of the operating system (e.g. 41)

ACI Directory Structure

With the unpacking will be created the following directory structure:



Installation Procedure

a) Make a new directory in the file system of the client

```
$ mkdir /usr/local/aci
```

b) Copy the ACI software in the new directory (FTP from AMU or cp from mounted medium)

```
$ mt -F FSTtype device mount_point
$ cp /dev/..../filename /usr/local/aci
```

or
(configuration of OS/2 ftp configuration ☞ AMU Installation Guide)

```
$ cd /usr/local/aci
$ ftp amu_hostname
userid> useid
password> password
ftp> bin
ftp> get das/aci/filename
ftp> quit
```

c) Uncompress the file (only if extension „z“)

```
$ uncompress -c filename
```

d) Unpack the files in the directory /usr/local/aci

```
$ tar -xvf /usr/local/aci/filename
```

3.6.2 Configuration of the DAS-Client

The DAS-Client needs same settings in the environment for operating with the AML. The mechanism for the setting is depends on the used shell.

Variable	Type	Explanation
DAS_SERVER	mandatory	TCP/IP host name or ip-address of the AMU-PC (DAS server). (☞ AMU Installation Guide)
DAS_CLIENT	mandatory	Name of the client for authorization on the DAS server (name must be defined on the DAS server file „CONFIG“ together with the TCP/ IP name of the client. The variable is case sensitive (☞ page 3 - 10).
ACI_MEDIA_TYPE	optional	Media type for use of another default media type in the dasadmin commands (default = 3480) (☞ page 7 - 7)

Example for C-Shell

```
setenv DAS_SERVER AMU
setenv DAS_CLIENT dasadmin
setenv ACI_MEDIA_TYPE DECDLT
```

Alternatively the commands may be entered in the client’s host „.cshrc“ file to take the effect globally.

Example for Korn and Bourne Shell

```
DAS_SERVER=AMU; export DAS_SERVER
DAS_CLIENT=dasadmin; export DAS_CLIENT
ACI_MEDIA_TYPE=DECDLT; export ACI_MEDIA_TYPE
```

Alternatively the commands may be entered in the client’s host „.profile“ file (Korn shell) or „.login“ file (Bourne shell) .

3.6.3 DAS-Client Test

After the installation and configuration is a simple test of the system recommended.

a) Start the DAS server (☞ page 3 - 17)

b) Enter on the client the command `dasadmin qversion` (☞ page 4 - 15)

4 DAS Administration

4.1 Overview

The DAS administration commands provide control of DAS and the AML. The DAS administration commands consist of the following categories:

- Media management
- DAS management
- Client management
- Scratch management

All DAS administration commands are invoked from the „C:\DAS\BIN" subdirectory (AMU controller PC) with the DASADMIN command.

Information

The DASADMIN command replaces dm, cm and mm command invocation from previous DAS releases. The commands dm, cm and mm ar not longer available.

4.1.1 DAS Administration Services Commands

A client configured with complete access rights has DAS administration privileges. Such client should always be configured for the AMU controller PC, and optionally for a network client to ease access to perform DAS administration.

Client Management Command Options

Command	Explanation
`listd`	List drive allocation status for a client up to 16 drives.
`listd2`	List drive allocation status for a client up to 250 drives.
`allocd`	Change drive allocation for a client.
`scop`	Set client operational parameters temporarily.
`scap`	Set client access parameters temporarily.

Media Management Command Options

Option	Explanation
`mount`	Mount volume in drive.
`dismount`	Dismount volume from drive.
`catf`	Catalog foreign volume.
`rmf`	Remove foreign volume.
`eject`	Eject volume to an eject area.
`insert`	Insert volume from an insert area.
`inventory`	Start physical inventory of AML.
`view`	View volume's database entry.
`qvolsrange`	List media names within requested range.
`PartInventory`	database compare of a defined area in the archive.
`unload`	press one or more buttons on the drive (e.g. unload, ready)

DAS Management Command Options

Option	Explanation
`list`	List active requests for a client.
`cancel`	Cancel DAS request.
`qversion`	Display DAS and ACI version.
`shutdown`	Shutdown DAS.
`robstat`	request of the system condition and toggle the system to ready
`robhome`	toggle the system to not ready and homing of the robot

Scratch Management Command Options

Option	Explanation
`scr_get`	Obtain scratch volume name.
`scr_info`	Obtain scratch volume information.
`scr_insert`	Insert scratch volume into archive.

Option	Explanation
scr_mount	Mount scratch volume in drive.
scr_set	Add volume to scratch list.
scr_unset	Remove volume from scratch list.

4.2 Command Conventions

4.2.1 Syntax

Syntax	Explanation
[ ]	Parameters listed in squared brackets are optional parameters and do not need to be specified if default values are accepted. If several optional paramters are listed, at least one may have to be specified, depending on the command request.
|	Parameters may be separated by an or sign, indicating that one or the other parameter may only be specified, but not both.
–	Command switches to indicate the type of parameter are indicated by a dash symbol.
( )	Some long administration commands have short forms defined. These are shown in parentheses after the long command form, if they exist. For example: DASADMIN eject (ej) DUMMY E01.

Volser Range

If the command requires a volser or volser range parameter, it must be in one of the following formats:
`volser | volser, volser, ... | volser-volser`

Media Types

By default, the media type is set to 3480. The default may be set to another global defaul media type with the environment variable `ACI_MEDIA_TYPE`.

```
SET ACI_MEDIA_TYPE=3590
```

Command accepts all media types supported by the AML (☞ page 7 - 7) to overwrite the default media type. The media type parameter is non case sensitive.

4.3 Command Description

4.3.1 ALLOCD: Change Drive Allocation

`dasadmin allocd (alld)` *`drive`* `UP | DOWN` *`client-name`*

The `allocd` command changes the status of the specified drive to an allocation status of `UP` or `DOWN` for the specified client.

Parameter	Explanation
`drive`	This parameter specifies which drive should be allocated or deallocated for a particular client.
`UP` or `DOWN`	This parameter specifies whether the drive allocation status is changed to on-line (`UP`), or changed to off-line (`DOWN`).
`client-name`	The *client-name* specifies the client for which the drive allocation is changed.

The DAS administrator uses this command to control multiple client systems who share drives. A drive can only have an `UP` status to one client system at a time. An attempt to bring a drive to an `UP` status fails when it already has an `UP` status to another client system; the first client system must have the status of the drive changed to `DOWN` and then the drive status can be changed to `UP` for another client system.

This command implements the manual approach to drive sharing. It is more desirable to automate this process by embedding DAS ACI calls into tape management software. This would enable DAS to be alerted whenever a drive is configured on- or off-line. The sharing of drives could then be automated and exactly in line with the operation of tape management software.

Information

The setting of the drive to the status `DOWN` is only possible with an empty drive

See Also

`listd` (☞ page 4 - 11)

4.3.2 CANCEL: Cancel DAS Requests

`dasadmin cancel (can) request-id`

The `cancel` command requests DAS to cancel the specified outstanding requests.

Parameter	Explanation
request-id	The *request-id* is the id of the DAS command as returned by the `list` command (☞ page 4 - 10).

4.3.3 CATF: Catalog Foreign Volume

`dasadmin catf [-t media-type] volser coordinate`

The `catf` command requests that DAS catalogs the volume for subsequent access as a foreign volume.

Parameter	Explanation
media-type	The optional media type parameter allows the specification of a media type (☞ page 7 - 7).
volser	The volser parameter specifies the volume serial number to adding in the for mount available foreign medias.
coordinate	The coordinate parameter specifies the complete coordinate in the I/O unit where the volume has been placed (for example, E101010101). (☞ AMU Reference Guide.)

Operators place foreign volumes in the I/O unit, in a foreign area, and then use the DASADMIN `catf` command to alert the DAS of their presence. Clients which access foreign volumes can then access the foreign volume by volume serial number.

Foreign volumes are not a permanent part of the AML's storage and are usually removed after use. The foreign position needs to be defined as a **`Foreign`** storage position in the AMU archive catalog and the **`Attribute empty`** befor you canuse the catf command (☞ AMU Reference Guide).

See Also

`rmf` (☞ page 4 - 17)

4.3.4 DISMOUNT: Dismount Volume

`dasadmin dismount (dism) [-t media-type] volser | -d drive`

The dismount command requests that DAS moves a volume from a drive back to its home position.

Parameter	Explanation
`media-type`	The optional *media-type* parameter allows the specification of a media type (☞ page 7 - 7).
`volser`	The *volser* specifies the volume serial number of the volume to be dismounted.
`drive`	The *drive* specifies the name of the drive from which a volume is to be dismounted. The dismount operation is then performed regardless of the volser currently mounted.

The dismount operation fails if the drive did not eject the volume.

If the dismount failed the command will automaticly after a defined time started again in the DAS-Server (max. 5 times)

See Also

`mount` (☞ page 4 - 13)

4.3.5 EJECT: Eject Volume(s)

```
dasadmin eject (ej) [-c] [-t media-type] volser-range
area
```

The `eject` command requests DAS to move a volume(s) to an eject area.

Parameter	Explanation
`-c`	The optional parameter `c` indicates to DAS an complete eject operation is requested (volser will be removed from the archive catalog)
`media-type`	The optional *media-type* parameter allows the specification of a media type (☞ page 7 - 7).

`volser-range`	The *volser-range* specifies one or more volsers to be ejected. The volser range must be in one of the following formats:
	`volser |`
	`volser, volser,... |`
	`volser-volser.`

`area`	The *area* specifies the eject area name in the I/O unit to which the volume(s) are moved (e.g. E01).

If the eject area becomes full, the operator is prompted in the AMU-Log to remove the ejected volumes. The eject operation continues once the I/O unit has been emptied and the unit is closed.

A complete eject operation updates the database entry to indicate that the volume's storage location is **`empty`** and the volser associated with the location is reset to volser **`0000000000000000`**. If a regular eject operation is specified, the database entry indicates that the volume's storage location has a status of **`ejected`** and the volser remains associated with the storage location. Hereby, the storage location is reserved for an insert operation of the previously ejected volume only.

4.3.6 INSERT: Insert Volume(s)

`dasadmin insert (in) [-t` *`media-type`*`] area`

The `insert` command moves volume(s) from a specified insert area into an AML storage location. All inserted volume volsers will be reported.

Parameter	Explanation
`media-type`	The optional *media-type* parameter allows the specification of a media type (☞ page 7 - 7).
`area`	The *area* specifies the insert area name in the I/O unit from where to insert the volume(s) (e.g. I01). The reference to physical slots in the I/O unit are defined in the **Graphical Configuration – Logical Ranges** in the AMS (☞ AMU Reference Guide)

The operator must first place the volumes in the I/O unit so that they are available for insertion. The operator can then issue the `dasadmin insert` command to activate the insert command:

- move the volumes to their home position in the AML (barcode volser detected by robot already in the archive catalog defined).
- move the volume to the next free position (new home position) in the AML (barcode volser detected by robot not yet defined in archive catalog).
- move the volume in the problembox (archive full or already assigned to other volsers or barcode not detected by robot).

Information

Don’t use for long volser the maximum of slots for insert on big I/O units (the buffer for the feedback-inserted volser is limited).

4.3.7 INVENTORY: Inventory of all Media Locations

```
dasadmin inventory
```

The `inventory` command starts a physical archive inventory that updates all current entries in the archive catalog (linear rack and storage towers). Inconsistencies of archive catalog enttries will be corrected.

The inventory command is issued and the command request completes. DAS does not hold the command request until the inventory completes or a `cancel` command by operator. The client may issue further commands while the inventory is being performed.

Only one `inventory` command can issued for the archive to one time.
For display the activity of the inventory command use the `list` command.

See Also

`list` (☞ page 4 - 10)

4.3.8 LIST: List Outstanding Commands

`dasadmin list` *`client-name`*

The `list` command requests DAS to list currently active requests. Listings are for a single client only.

Parameter	Explanation
`client-name`	The *client-name* specifies the client with which the currently active commands should be associated.

Example

```
 list for client: AMUCLIENT successful
client = AMUCLIENT
    request = 1
    individ_no = 0
    type = PINV

client = AMUCLIENT
    request = 7
    individ_no = 0
    type = MONT
```

Display	Explanation	
`client`	Client which requested the command	
`request`	sequence number of the command	
`individ_no`	reserved	
`type`	`MONT`	mount command
	`KEEP`	dismount command
	`INVT`	insert command
	`MOVE`	eject command
	`PINV`	inventory command

4.3.9 LISTD: List Drive Status

`dasadmin listd (ld) [client-name]`

The listd command lists a client's drive status of up to 16 drives . The command displays the drive status for a specified client, or displays complete drive status if no client name is given.

Parameter	Explanation
client-name	The optional *client-name* specifies the client for which the drive status is requested.

The command returns the AMU drive number, whether any volser is mounted (if the drive is in use) and a status of `UP` or `DOWN`. If the drive has a status of `UP`, the name of the client with access to the drive is listed.

Example

```
listd for client:  successful
drive: dlt01 amu drive: 01 st: DOWN type: E sysid: client:
volser:   cleaning 0  clean_count: 0
drive: vhs01 amu drive: 02  st: DOWN  type: V  sysid:   client:
volser:   cleaning 0  clean_count: 0
drive: lms01 amu drive: 03  st: UP  type: Q sysid:   client:
AMUCLIENT volser: 000026  cleaning 0  clean_count: 21
drive: dat01 amu drive: 04  st: UP  type: F sysid:   client:
AMUCLIENT volser:   cleaning 0  clean_count: 26
```

Display	Explanation
`drive:`	Drive **Description** in AMS **Graphical Configuration** and DAS „CONFIG“ file
`amu drive:`	Number of the Drive **Name** in the AMS **Graphical Configuration**
`st:`	Drive status `UP` for alloced and `DOWN` for disalloced
`type:`	Drive type defined in the AMS (☞ page 7 - 8)
`sysid:`	reserved
`client:`	client-name alloced to the drive
`volser:`	mounted volume on the drive

Display	Explanation
`cleaning:`	actual clean activity: 0: no clean activity on drive 1: cleaning media mounted on the drive
`clean_count:`	number of mounts until the next cleaning interval

Information

The maximum of listed drives are 16.

4.3.10 LISTD2: List Drive Status

`dasadmin listd (ld) [`*`client-name`*`]`

The listd command lists a client's drive status of up to 250 drives . The command displays the drive status for a specified client, or displays complete drive status if no client name is given.

Parameter	Explanation
`client-name`	The optional *client-name* specifies the client for which the drive status is requested.

The command returns the AMU drive number, whether any volser is mounted (if the drive is in use) and a status of `UP` or `DOWN`. If the drive has a status of `UP`, the name of the client with access to the drive is listed.

Example

```
listd for client:  successful
drive: dlt01 amu drive: 01 st: DOWN type: E sysid: client:
volser:   cleaning 0  clean_count: 0
drive: vhs01 amu drive: 02  st: DOWN  type: V  sysid:   client:
volser:   cleaning 0  clean_count: 0
drive: lms01 amu drive: 03  st: UP  type: Q sysid:   client:
AMUCLIENT volser: 000026  cleaning 0  clean_count: 21
drive: dat01 amu drive: 04  st: UP  type: F sysid:   client:
AMUCLIENT volser:   cleaning 0  clean_count: 26
```

Display	Explanation
`drive:`	Drive **Description** in AMS **Graphical Configuration** and DAS „CONFIG“ file
`amu drive:`	Number of the Drive **Name** in the AMS **Graphical Configuration**
`st:`	Drive status `UP` for alloced and `DOWN` for disalloced
`type:`	Drive type defined in the AMS (☞ page 7 - 8)
`sysid:`	reserved
`client:`	client-name alloced to the drive
`volser:`	mounted volume on the drive
`cleaning:`	actual clean activity: 0: no clean activity on drive 1: cleaning media mounted on the drive
`clean_count:`	number of mounts until the next cleaning interval

Information

The maximum of listed drives are 250.

4.3.11 MOUNT: Mount Volume

`dasadmin mount (mo) [-t` *`media-type`*`] volser [`*`drive`*`]`

The `mount` command moves a specified volume into drive. If the drive is not specified, DAS chooses a drive of the right media type that is on-line to the client.

Parameter	Explanation
`media-type`	The optional media type parameter allows the specification of a media type (☞ page 7 - 7).
`volser`	The *volser* specifies the volume serial number of the volume to be mounted.
`drive`	The *drive* specifies the drive name where the specified volume is to be mounted. If the command will be used without drive name, the an allocated free drive will be mounted. The drive with the smallest number of mounts (AMU archive catalog **Use Count**) will be used.

4.3.12 PartInventory: Partial Inventory of the AML

```
dasadmin PartInventory [sourcecoor] [targetcoor]
dasadmin pinvt [sourcecoor] [targetcoor]
```

The command PartInventory starts in the AML system on the defined coordinates (tower and linear rack) a compare with the AMU database and updates the differences in the AMU database.

Parameter	Explanation
`sourcecoor`	logical coordinate in the AML, for the start of the inventory, e.g. T104320908
`targetcoor`	last compartment for the inventory, e.g. T105010310 This coordinate must be in the same device (tower or rack) of the sourcecoor.

Empty comartments with the attribute Ejected or mounted will be not changed.

If the barcode not readable, will the volser in the database overwritten with a symolic volser e.g. . *I0001.

Warning

The function PartInventory is only for test und installation designed. During the operation will the failures only displayed in the AMU log but never to to the client. The database can be complete overwritten with the symbolic Volser "*Ixxxx" if a barcode scanner failure occure.

Example

```
dasadmin pinvt T104320908 T105010310
```

see also

`Inventory`

4.3.13 QVERSION: Query Software Version

```
dasadmin qversion
```

Display the version of the DAS-Server software and the DAS ACI Software

Example

```
ACI-Version : 1.30C1
DAS-Version : 1.30C1
```

4.3.14 QVOLSRANGE: Query Client's Volser Range

```
dasadmin qvolsrange beginvolser endvolser count
[client-name]
```

The `qvolsrange` command requests that DAS reports the amount and volser list of volumes accessible to the specified client within the requested volser range.

Parameter	Explanation
begin-volser	The *beginvolser* specifies the volume serial number of the first volume within the range of requested volsers or "" for unspecified selection.
endvolser	The *endvolser* specifies the volume serial number of the last volume within the requested volser range or "" for unspecified selection.
count	The *count* specifies the number of volume serial numbers to report within the specified volser range. This number may be larger than the amount of volsers actually returned. The maximum value for *count* is 1000.
client-name	If an optional *client-name* is specified, the volser range is checked for the particular client only. If not specified, the list of reported volsers is assembled from the client which issued the command.

For request of all to the client assigned volser use the command
`dasadmin qvolsrange "" "" count`

Example

```
next volser 000368
count 5
more data
volser 000018 media 3480 attrib Occupied
volser 000025 media 3480 attrib Occupied
volser 000026 media 3480 attrib Mounted
volser 000079 media 3480 attrib Occupied
volser 000083 media 3480 attrib Occupied
```

Display	Explanation
`next volser`	first volser of the not displayed volsers from requested range
`count`	number of volsers (count from command)
`more data`	not all volser from requested range displayed
`volser`	Volume specified by volser
`media`	media-type assigned to the volser (☞ page 7 - 7)
`attrib`	Attribute of the archive coordinate

The function returns a list of volsers from the archive catalog. The amount of returned volsers are in relation from the configuration:

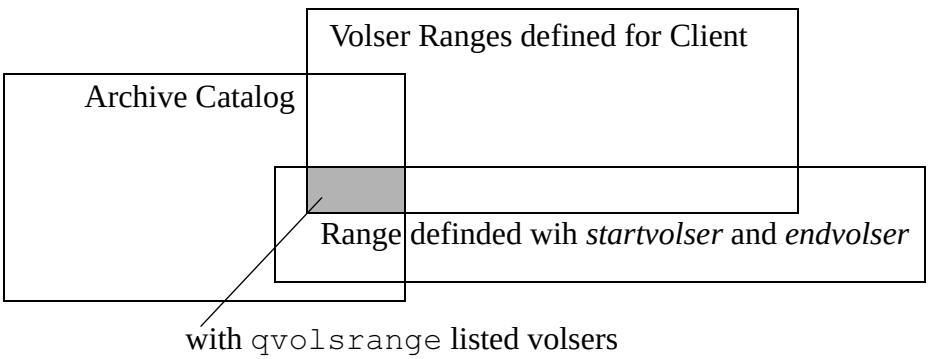


Abb. 4-1: Amount of listed volsers

4.3.15 RMF: Remove Foreign Volume

```
dasadmin rmf [-t media-type] volser coordinate
```

The `rmf` command requests that DAS uncatalog the volume for foreign mount volume list.

Parameter	Explanation
media-type	The optional *media-type* parameter allows the specification of a media type (☞ page 7 - 7).
volser	The *volser* parameter specifies the volume serial number to be remove from the list of mountable foreign medias.
coordinate	The *coordinate* parameter specifies the complete coordinate in the I/O unit where the volume has been removed (for example, E101010101). (☞ AMU Reference Guide.)

4.3.16 robhome: Activate Robot in AML

```
dasadmin robhome robotnumber
```

The command robhome moved the robot (on AML/2 Robot 1 or 2) in the homeposition and set the Status to not activ. All following commands from all Host systems will be canceled from this robot (AMU-message: The desired robot is not available <1138>. With the command robstat can be activated the robot.

Parameter	Explanation
robotnumber	Number (R1 or R2) of the robot, which should be set to not ready.

Example

```
dasadmin robhome R1
```

4.3.17 robstat: Set robot in AML to ready

```
dasadmin robstat [robotnumber] action
```

With the command robstat will be set the robot (on AML/2 Robot 1 or 2) to ready or the actual status of the robots displayed.

Parameter	Explanation	
robotnumber	Number (R1 or R2) of the Robot, to be set to ready (only for action START).	
action	START	Set the with robotnumber defi-nied robot ready
	STAT	Status request of the robot

Example

```
dasadmin robstat R1 START
```

```
dasadmin robstat STAT

cmd robstat    stat
 RobStat 1: NOTREADY, RobStat 2: READY
```

4.3.18 SCAP: Set Client Access Parameters

```
dasadmin scap [±] [-t media-type] [-d drive-range] |
[-v volser-range] client-name
```

The `scap` command registers a client temporarily with DAS and changes the client's access parameters for certain volumes or drives. Only one range can be included or excluded per scap call.

Parameter	Explanation
±	The first optional parameter specifies that the range is being included (+) or excluded (-) in the client's access list. (The default is +).
media-type	The optional *media-type* parameter allows the specification of a media type (☞ page 7 - 7).
drive-range	The optional *drive-range* parameter specifies one or more drives available to the client. Drive names are specified in a range (☞ page 3 - 11).
volser-range	The optional *volser-range* parameter specifies the volume(s) for the client. The volsers are specified in a range (☞ page 3 - 11).
client-name	The *client-name* specifies the client to which the command applies.

The administrator must ensure that the ranges specified for inclusion or exclusion do not cross with each already existing range specification. For example, if a range 1-100 is already specified and you want to exclude range 5-20. The correct way to achieve this is to exclude 1-100, then include ranges 1-4 and 21-100. DAS rejects any exclusion requests that do not exactly match (including spacing) an existing range.

Information

The specification is lost when DAS shuts down. To make the access specification permanent, insert the specification in the configuration file. Use the command only, if you have actually no access to the file „CONFIG“ in the DAS-server. The normal way for change of access parameters is to edit the file „CONFIG“ of the DAS server in the AMU-PC

4.3.19 SCOP: Set Client Operating Parameters

```
dasadmin scop [±avc] [±c] [±dism] [ip-address]
[±] client-name
```

The `scop` command temporarily registers a client with DAS and changes a client's operating parameters.

Parameter	Explanation
`± avc`	The optional avoid volume contention parameter specifies whether the client should wait if another client has already mounted the volume (`+avc`), or whether the client should queue a mount request until the other client has dismounted the volume (`-avc`). (The default is `-avc`).
`± c`	This optional parameter either grants complete (`+c`) administrator, or basic (`-c`) access. (The default is `-c`).
`± dism`	The optional dismount parameter specifies whether the specified client issues dismount requests when the application has finished with a volume or whether DAS needs to schedule dismount operations. (The default is `+dism` as most systems do issue explicit dismounts.)
ip-address	The optional *IP address* parameter specifies the client address in 'dot' notation, for example, 192.131.23.10, or as an Internet hostname. This parameter must be specified on the first `scop` call or when the IP address is changed.
± client-name	The *client-name* parameter specifies the client to which this command applies. The optional ± parameter indicates whether the client is prohibited (removed) from accessing DAS (*-*), or whether a new client is added to the DAS for access of the DAS server (`+`). Specifying a client name without ± changes an existing client's operating profile.

Information

The specification is lost when DAS shuts down. To make the access specification permanent, insert the specification in the configuration file. Use the command only, if you have actually no access to the file „CONFIG“ in the DAS-server. The normal way for change operating parameters is to edit the file „CONFIG“ of the DAS server in the AMU-PC

4.3.20 SCR_GET: Get Scratch Media

```
dasadmin scr_get [poolname] [-t media-type]
```

The `scr_get` command queries a scratch pool to return a volser of specified media type

If the volume is to be taken from a default scratch pool, set the media type to the requested media type and do not specify a scratch pool name.

Parameter	Explanation
poolname	This optional parameter specifies which scratch pool should be selected to specify a scratch volume.
media-type	The optional *media-type* parameter allows the specification of a media type.

4.3.21 SCR_INFO: List Scratch Media Status

```
dasadmin scr_info [poolname] [-t media-type]
```

The `scr_info` command queries the scratch pool named `poolname` for information regarding the number of volumes defined to the pool, and the number of volsers that have been selected as scratch volumes.

If the scratch pool name is not specified, the default pool for the specified media type is querried.

Parameter	Explanation
poolname	This optional parameter specifies which scratch pool is queried for scratch volume information.
media-type	The optional *media-type* parameter allows the specification of a media type.

The command returns the number of defined volsers, and the number of volsers set to scratch volsers..

```
DEFAULT_POOL: VolserCount: 23, ScratchCount: 12
```

4.3.22 SCR_INSERT: Insert Scratch Media

ATTENTION!

You can losts data. The command sets automatically (without check) all volumes in the insert area of the I/O unit to scratch. With the next scratch mount the data on this media will be overwritten.

`dasadmin scr_insert [-p` *`poolname`*`] [-t` *`media-type`*`]` *`area`*

The `scr_insert` command inserts media of *media-type* into the scratch pool name *poolname* from the insert area *area*. (function insert and set_scr)

If the scratch pool name is not specified, the media type identifies the default scratch pool for all inserted media.

Parameter	Explanation
`poolname`	This optional parameter identifies the scratch pool in which the inserted media will be defined.
`media-type`	The optional *media-type* parameter allows the specification of a media type.
`area`	The *area* specifies the insert area from which the insert operation is performed.

4.3.23 SCR_MOUNT: Mount Scratch Media

```
DASADMIN scr_mount [-p poolname] [-t media-type]
[drive]
```

The `scr_mount` command mounts a scratch volume of specified media type from the specified scratch pool to the specified drive (function scr_get and mount).

If the scratch pool name is not specified, a scratch volume will be selected from the default scratch pool containing the specified media type.

Parameter	Explanation
poolname	This optional parameter identifies the scratch pool from which the scratch media will be selected.
media-type	The optional *media-type* parameter allows the specification of a media type (☞ page 7 - 7).
drive	The optional parameter *drive* specifies the drive in which the volume is mounted.

The command returns the volser of the mounted scratch volume.

4.3.24 SCR_SET: Set Scratch Media

ATTENTION!

You can losts data. The command sets the named volumes in the command to scratch. With the next scratch mount the data on this media will be overwritten.

`dasadmin scr_set [poolname] [-t media-type] volser`

The scr_set command defines a volser of specified media type as scratch media in the scratch pool named poolname.

The scratch pool will be created if it does not exist, or if ommitted, the default scratch pool for the specified media type will be selected.

Parameter	Explanation
poolname	This optional parameter identifies the scratch pool in which the volser is set to scratch.
media-type	The optional *media-type* parameter allows the specification of a media type. .
volser	The parameter *volser* specifies the volume name that is set to the scratch status.

Information

If the volume is already in another scratchpool the message EOTHERPOOL appears.

4.3.25 SCR_UNSET: Unset Scratch Media

`DASADMIN scr_unset [poolname] [-t media-type] volser`

The `scr_unset` command changes the status of the scratch volser with specified media type to non-scratch media in the archive catalog and will be removed from the scratch pool.

If the scratch pool name is to omit, the default scratch pool for the specified media type will be selected. If the specified volser is the last volser in the scratch pool will be deleted.

Parameter	Explanation
poolname	This optional parameter identifies the scratch pool in which the volser status is changed to non-scratch media.
media-type	The optional *mediatype* parameter allows the specification of a media type.
volser	The parameter *volser* specifies the volume name that is changed to non-scratch media.

4.3.26 SHOW: List Operational or Access Parameters

`dasadmin show [-op] | [-ac] client-name`

The `show` command lists operational or access parameters for a specified client.

Parameter	Explanation
`-op`	This optional parameter requests that DAS lists operational parameters.
`-ac`	This optional operational parameter requests that DAS lists access parameters.
`client-name`	The *client-name* parameter specifies the client to which this command applies.

Information

One or the other, but not both optional parameters must be specified.

Example for SHOW -op.

```
client: AMUCLIENT   client operational parameters
    avc: TRUE
    complete access: TRUE
    dismount: TRUE
    ip_address: 192.168.1.132
```

Example for SHOW -ac.

```
access parameters for client: AMUADMIN
volser-ranges:                000001-999999
                              GR0000-GR9999
drive-range:                  dlt01,vhs01
```

4.3.27 SHUTDOWN: Stop DAS Operations

```
DASADMIN shutdown (shut) [now]
```

The `shutdown` command requests that DAS terminates operation.

Parameter	Explanation
`now`	This optional parameter specifies an immediate shut down, otherwise all incoming requests are refused and DAS shuts down once all outstanding requests have been completed.

4.3.28 unload: Activate drive button

```
dasadmin unload drive
```

The command issue the robot to press one ore two buttons on the defined drive . the configuration of the position and number of buttons are in the robot control of the AML.

Parameter	Explanation
`drive`	Name of the drive (AMS-Description) for the unload command

Example

```
dasadmin unload odisk01
```

4.3.29 VIEW: Display Volume Status

```
dasadmin view [-t media-type] volser
```

The view command requests that DAS displays the current status of a volume. The list presents details about the volume and its use in the AML.

Parameter	Explanation
media-type	The optional *media-type* parameter allows the specification of a media type.
volser	Specifies the volume serial number of the volume to be viewed.

Example

```
volser = 000026
type = A attrib = M
coordinate = L8010103
Use Count = 8740
Crash Count = 0
```

Display	Explanation	
volser	requested volser (search criteria in archive catalog)	
type	Type of the slot (coordinate in the archive)	
	A	AMU-Dynamic (dynamical storage area in the archive)
	S	Storage (hierarchical storage area in the archive)
	N	Clean (clean media storage area in the archive)
attrib	Attribute of the slot (actual state)	
	O	Occupied (media is in home position)
	E	Ejected (media is moved to the I/O unit)
	M	Mounted (media is moved to a drive)
	I	Initial (coodinate not used)
	J	In Jukebox (Optical Disk is moved to the Jukebox)
	R	Reverse Side Mounted (Optical Disk is moved to a drive
	Y	Empty (no media for coodinate defined)
	U	Undefined (unknown attribute)
	T	Temp Here (Media temporary on this coordinate)
	A	Temp Away (Media temporary not on the coordinate)
coordinate	10 digit archive coordinate to define the slot (☞ AMU Reference Guide)	
Use Count	Number of accesses of the robot to the coordinate (not volser)	
Crash Count	reserved	

5 DAS Messages

DAS informational messages and error messages are defined for DAS server operations, DAS ACI operations, and unsuccessful DAS server to ACI client communication.

DAS Server Messages

DAS server messages define informational and error messages for DAS server operations. DAS server messages are displayed in the AMS-Log window. DAS server error messages are also returned to the requesting client.
DAS server messages are grouped into

- informational DAS server messages
- internal DAS server software errors
- DAS server cleaning operation messages
- client requests messages
  - request beginning
  - equest completion
  - request errors

DAS ACI Messages

DAS ACI messages define error messages that may occur during DAS ACI operations. Such errors are the result of unsuccessful ACI communication to the DAS server component. DAS ACI messages are written to the client's standard error.

DAS Server to ACI Messages

DAS server to ACI client messages define errors that may be written to the client's standard error when the DAS server is unable to report a DAS error message string to the DAS ACI module. In such case, the DAS ACI component selects an error message text depending on the returned DAS server error number (d_errno).

Additionally to the defined DAS messages, clients may call an ACI function to display application defined error messages, which are prepended to the returned standard DAS server request error messages.

5.1 Conventions For Messages

The following format conventions are used for the messages:

- The actual message is shown in the `Courier` font.
- Below the message, there will be a description of the message including any actions taken by the DAS system.
- Following the description is any suggested action that can be taken by the user.

The following is an example of a DAS message. Variable values, such as error numbers and text strings are indicated with *xxxx*, *yyyy*, and *zzzz*.

5.1.1 DASxxxx

```
Msg not found.
```

Description

The DAS server encountered a problem which does not have a corresponding error message associated with the d_errno condition. This problem cannot be corrected by the DAS server and may be the result of incorrect AMU AMS configuration or operation.

Action

Analyze the problem and condition that lead to the problem and correct the situation accordingly. Retry the command.

If the problem persists, report it to your DAS support representative.

5.2 DAS Server Messages

The following messages are the DAS server informational and error messages:

5.2.1 DAS0001

`DAS/2 Version` *xxxx* `is starting ...`

Description

The DAS server has been invoked and is initializing and configuring for DAS client access.

When the initialization process completes, the DAS reports a DAS0002 (`DAS/2 ready`.) message within 1 minute of invocation.

Action

If the DAS server does not complete initialization, and no further error information is displayed, end the DAS/2 program by issuing a <CTRL>+<-C>. Then restart the invocation.

If the DAS/2 ready message is not displaying, make sure that TCP/IP is started and the portmapper service is active.

If DAS/2 exits immediately after being started, make sure that the AMS is active and ready to communicate with DAS/2.

If the problem persists, report it to your DAS support representative.

5.2.2 DAS0002

`DAS/2 ready.`

Description

The DAS server has successfully initialized and is ready for client access.

Action

No intervention required.

5.2.3 DAS0003

```
DAS/2 ended.
```

Description

The DAS server received a request for a shutdown operation and successfully shut down its processes.

Action

No intervention required.

5.2.4 DAS3000

```
Internal DAS error in xxx.
```

Description

The DAS server executed a code path that caused an internal software error. The DAS server cannot recover.

Action

Determine the cause of events and client requests as shown in the AMU AMS log window and report the condition to your DAS support representative.

5.2.5 DAS3001

```
Open failed for file xxxx
```

Description

DAS/2 was unable to open a temporary file and cannot continue operation.

Action

Determine the cause of events and client requests as shown in the AMU AMS log window and report the condition to your DAS support representative.

5.2.6 DAS3002

```
Read failed for xxxx.
```

Description

DAS/2 failed to successfully read from a temporary file and cannot continue operation.

Action

Determine the cause of events and client requests as shown in the AMU AMS log window and report the condition to your DAS support representative.

5.2.7 DAS3003

```
Write failed for file xxxx.
```

Description

DAS/2 failed to successfully write to a temporary file and cannot continue operation.

Action

Determine the cause of events and client requests as shown in the AMU AMS log window and report the condition to your DAS support representative.

5.2.8 DAS3004

```
Close failed for file xxxx.
```

Description

DAS/2 failed to successfully close a temporary file and cannot continue operation.

Action

Determine the cause of events and client requests as shown in the AMU AMS log window and report the condition to your DAS support representative.

5.2.9 DAS3020

```
Internal request list problem.
```

Description

DAS/2 is unable to traverse its request list queue and cannot continue reliable operation.

Action

Determine the cause of events and client requests as shown in the AMU AMS log window and report the condition to your DAS support representative.

5.2.10 DAS3021

```
Cannot send to RQM module.
```

Description

DAS/2 is unable to communicate with its request manager module and cannot continue operation.

Action

Determine the cause of events and client requests as shown in the AMU AMS log window and report the condition to your DAS support representative.

5.2.11 DAS3500

```
No clean volser of media type xxxx found.
```

Description

DAS/2 scheduled a cleaning operation for a drive, but is unable to locate a cleaning volume of the required media type.

Action

Verify the following:

- that system entries to define cleaning volumes are present in the DAS configuration file which has the path „C:\DAS\ETC\CONFIG“.
- that the required cleaning volume is physically present in the archive.
- that the cleaning volume’s use count has not expired and the volume is not ejected.

If the problem persists, report it to your DAS support representative.

5.2.12 DAS3501

```
Ejecting clean volser xxxx.
```

Description

DAS/2 has performed a cleaning operation and ejected the cleaning volume after use, as the use count expired.

Action

Remove the cleaning volume from the eject area.

5.2.13 DAS3502

```
Cleaning drive xxxx with volser yyyy.
```

Description

DAS/2 started an automatic drive cleaning operation.

Action

No intervention required.

5.2.14 DAS3503

```
Cleaning drive xxxx with volser yyyy ended.
```

Description

DAS/2 has finished an automatic cleaning operation and removed the cleaning volume from the drive.

Action

No intervention required.

5.2.15 DAS3504

```
Cleaning drive xxxx with volser yyyy failed.
```

Description

DAS/2 started an automatic drive cleaning operation, but the cleaning process did not complete successfully.

Action

Determine the cause of the failure by inspecting the drive status. The cleaning cartridge may not have mounted correctly or may not be ejected from the drive. The volume may also not be ejected far enough for the robot gripper mechanism to grab the cartridge.

Correct the problem, and return the cleaning volume to its home position. Then update the AMU AMS database to reflect that the cleaning volume’s home position is occupied again.

If the problem occurs frequently, report it to your DAS support representative.

5.2.16 DAS4000

```
Client xxxx not defined to DAS.
```

Description

DAS/2 received a request from a client that is not defined to the DAS server.

Action

Verify that the client name is defined in the „C:\DAS\ETC\CONFIG“ configuration file, or verify that the client name was added dynamically to the DAS configuration with the `scap` administration command.

If the problem persists, report it to your DAS support representative.

5.2.17 DAS4001

```
Client xxxx IP address not defined to DAS.
```

Description

DAS/2 received a request from a client that is defined to the DAS server with a different TCP/IP address.

Action

Verify that the client name is defined in the „C:\DAS\ETC\CONFIG“ configuration file with the correct TCP/IP address, or that the client has been added dynamically to the DAS configuration with the `scap` administration command.

If the problem persists, report it to your DAS support representative.

5.2.18 DAS4002

```
Client xxxx does not have the required access privi-
lege.
```

Description

DAS/2 received a request from a client, which is configured for basic access rights. The request is rejected.

Action

Verify that the client should be authorized to issue the request. Correct the client definition in the „C:\DAS\ETC\CONFIG“ file to allow complete access rights if required and restart DAS/2 to accept the client requests.

5.2.19 DAS4003

```
Requested client xxxx not defined to DAS.
```

Description

DAS/2 received a request in which a client name was specified as a command parameter.

Action

Verify that the client name is defined in the „C:\DAS\ETC\CONFIG“ configuration file, or that it was added dynamically with the `scap` administration command.

If the problem persists, report it to your DAS support representative.

5.2.20 DAS4004

```
Requested drive xxxx not defined.
```

Description

DAS/2 received a request with a drive parameter that is not defined for the client.

Action

Verify that the requesting client has drive access permissions in the „C:\DAS\ETC\CONFIG“ configuration file, or received the drive definition dynamically via the `scap` administration command.

If the problem persists, report it to your DAS support representative.

5.2.21 DAS4005

```
Requested volser xxxx not defined.
```

Description

DAS/2 received a request with a volser parameter that is not defined for the client.

Action

Verify that the requesting client has the volser defined for access in the „C:\DAS\ETC\CONFIG“ configuration file, or received the volser access definition dynamically via the `scap` administration command.

If the problem persists, report it to your DAS support representative.

5.2.22 DAS4006

```
Requested area xxxx not defined.
```

Description

DAS/2 received a request with an input/output area name parameter that is not defined for the client.

Action

Verify that the requesting client has the input/output area name defined in the `C:\das\etc\config` configuration file.

If the problem persists, report it to your DAS support representative.

5.2.23 DAS4007

```
Requested pool xxxx not defined.
```

Description

DAS/2 received a request with a scratch pool name parameter that is not defined for the client.

Action

Verify that the requesting client has the scratch pool name defined in the `C:\das\etc\config` configuration file.

If the problem persists, report it to your DAS support representative.

5.2.24 DAS4010

```
Client xxxx does not have access to volser yyyy.
```

Description

DAS/2 received a request with a volume name parameter that is not configured for access for the requesting client.

Action

Verify that the requesting client has the volser defined in the `C:\das\etc\config` configuration file.

If the problem persists, report it to your DAS support representative.

5.2.25 DAS4011

```
Client xxxx does not have access to drive yyyy.
```

Description

DAS/2 received a request with a drive name parameter that is not configured for access for the requesting client.

Action

Verify that the requesting client has the drive defined in the `C:\das\etc\config` configuration file.

If the problem persists, report it to your DAS support representative.

5.2.26 DAS4012

```
Client xxxx does not have access to area yyyy.
```

Description

DAS/2 received a request with an input/output station name parameter that is not configured for access to the requesting client.

Action

Verify that the requesting client has the area name defined in the „C:\DAS\ETC\CONFIG“ configuration file.

If the problem persists, report it to your DAS support representative.

5.2.27 DAS4013

```
Client xxxx does not have access to pool yyyy.
```

Description

DAS/2 received a request with a scratch pool name parameter that is not configured for access to the requesting client.

Action

Verify that the requesting client has the scratch pool name defined in the „C:\DAS\ETC\CONFIG“ configuration file.

If the problem persists, report it to your DAS support representative.

5.2.28 DAS4020

```
Register request from client xxxx for client yyyy.
```

Description

DAS/2 received a request to add/delete another client in the DAS configuration.

Action

This is an information message and does not require intervention.

5.2.29 DAS4021

```
Register request form client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed a previously received client registration request.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.30 DAS4022

```
Requested client xxxx still defined to DAS.
```

Description

DAS/2 received a request to add a client to the DAS access right configuration. However, the client name is already defined.

Action

Verify that the client is not defined in the „C:\DAS\ETC\CONFIG“ configuration file, or that it has not been added dynamically with a DAS administration command.

Correct the configuration and retry the command. If the problem persists, report it

to your DAS support representative.

5.2.31 DAS4023

```
Add request for client xxxx failed.
```

Description

DAS/2 received a request to add a client to the DAS configuration. However, the client cannot be added, since the maximum number of client definitions has been exceeded. DAS/2 cannot add the client without DAS configuration changes.

Action

The client can only be added, if another client definition is removed. This may be done dynamically with a `scap` command, or may be done statically via the DAS server's „C:\DAS\ETC\CONFIG“ configuration file modification. Note, however, that the changes in the configuration file take effect only if DAS is reinitialized.

Correct the configuration and retry the command. If the problem persists, report it to your DAS support representative.

5.2.32 DAS4024

```
The IP address or hostname xxxx is not valid.
```

Description

DAS/2 received a request with an IP address or hostname parameter which is not defined to the DAS configuration. Either the TCP/IP address is not defined or the defined hostname cannot be resolved to a TCP/IP address.

Action

Verify that the request parameters are correct and defined to the DAS configuration. If a hostname parameter was received, make sure the hostname is defined in the „TCPIP\ETC\HOSTS“ file, and that the name can be resolved to a valid IP address.

Correct the configuration and retry the command. If the problem persists, report it to your DAS support representative.

5.2.33 DAS4030

```
Access request from client xxxx for client yyyy.
```

Description

DAS/2 received a request to modify another client's access right configuration.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.34 DAS4031

```
Access request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed a previously received client access request.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.35 DAS4032

Volser range request failed for client xxxx.

Description

DAS/2 received a request to add a volser range to a client's volser range configuration. The request failed, as the maximum number of volser ranges are already defined.

Action

Verify that the client's volser range definition does not exceed the maximum of 10 volser ranges. If necessary, delete a volser range.

Correct the configuration and retry the command. If the problem persists, report it to your DAS support representative.

5.2.36 DAS4033

```
Volser range xxxx not defined for client yyyy.
```

Description

DAS/2 received a request to return a list of volsers within a specified range. However, the specified volser range is not defined for access to the requesting client.

Action

Verify that the client's volser range is defined for access to the client. If necessary, add the necessary volser range to the client configuration.

Correct the configuration and retry the command. If the problem persists, report it to your DAS support representative.

5.2.37 DAS4040

```
Drive access request from client xxxx for drive yyyy.
```

Description

DAS/2 received a request to modify a specified drive's access right configuration.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.38 DAS4041

```
Drive access request from client xxxx completed (not)
successful.
```

Description

DAS/2 completed a previously received drive access request.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.39 DAS4042

```
Drive xxxx in use by another client.
```

Description

DAS/2 received a request involving a drive that is currently busy and not available to complete the request.

Action

Verify that the drive command parameter is correct, and that the DAS server has not scheduled a cleaning operation for that drive. If necessary, wait a while and then retry the command.

If the problem persists, report it to your DAS support representative.

5.2.40 DAS4043

```
Drive xxxx not owned by client yyyy.
```

Description

DAS/2 received a request involving a drive that is not defined for access by the requesting client in the DAS configuration file.

Action

Verify that the drive parameter specifies a valid drive name. If necessary add the drive name to the client's access right definition in the „C:\DAS\ETC\CONFIG“ configuration file

Correct the configuration and retry the command. If the problem persists, report it to your DAS support representative.

5.2.41 DAS4044

```
Drive xxxx is not empty.
```

Description

DAS/2 received a request to change the drive status from active to inactive (DOWN) for a specified client. However, the drive is not empty and the drive status cannot be changed.

Action

Issue a dismount command to the drive. Then retry the command.

If the problem persists, report it to your DAS support representative.

5.2.42 DAS4050

```
Foreign request from client xxxx - coordinate yyyy,
volser zzzz.
```

Description

DAS/2 received a request involving a foreign volser.

Action

This is an information message and does not require intervention.

5.2.43 DAS4051

```
Foreign request from client xxx completed (not) suc-
cessful.
```

Description

DAS/2 completed the request involving a foreign volser.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.44 DAS4052

```
Foreign volser xxxx, media type yyyy added to catalog.
```

Description

DAS/2 received a request to add a foreign volser to its internal database.

Action

This message is informational and does not require intervention.

5.2.45 DAS4053

```
Foreign volser xxxx, media type yyyy not stored in cata-
log.
```

Description

If DAS/2 received a request involving foreign media (catf), the DAS server will not save the new foreign volserin the internal database.
If DAS/2 received a request remove foreign media (rmf), the DAS server has not previous cataloged the named volser.

Action

Verify that the foreign volser is correct and that the volser has been added successfully with the aci_foreign function call.

Correct the problem and retry the command.

If the problem persists, report it to your DAS support representative.

5.2.46 DAS4054

```
Coordinate xxxx not empty for foreign volser yyyy.
```

Description

DAS/2 received a request to add a foreign volser to its internal database, but the position is already defined and occupied by a foreign volser.

Action

Verify that the request specifies the correct location and volser. Make sure that a previous foreign volser has been deleted for that position.

Correct the problem and retry the command. If the problem persists, report it to your DAS support representative.

5.2.47 DAS4055

```
Coordinate xxxx is not of type FOREIGN.
```

Description

DAS/2 received a request to add a foreign volser to its internal database, but the position is not defined in the AMU archive catalog to be of type **Foreign**.

Action

Verify that the request specifies the correct location. Make sure the AMS configuration defines the coordinate to be of type **Foreign**.

Correct the problem and retry the command. If the problem persists, report it to your DAS support representative.

5.2.48 DAS4056

```
Coordinate xxxx does not match media type yyyy.
```

Description

DAS/2 received a request to add a foreign volser to its internal database, but the position is defined for a different media type than specified in the DAS request.

Action

Verify that the request specifies the correct media type. Make sure that the AMU AMS configuration defined the area for the specified media type.

Correct the problem and retry the command. If the problem persists, report it to your DAS support representative.

5.2.49 DAS4057

```
Foreign volser xxxx still mounted.
```

Description

DAS/2 received a request to delete a foreign volser from its internal database, but the foreign media is still mounted.

Action

Verify that the request specifies the correct volser of the foreign media and that the media is not mounted.

Correct the problem and retry the command. If the problem persists, report it to your DAS support representative.

5.2.50 DAS4060

```
Mount request from client xxxx - volser yyyy, drive
zzzz.
```

Description

DAS/2 received a request to mount a volser in a drive.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.51 DAS4061

```
Mount request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed a previously received mount request.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.52 DAS4062

```
Drive xxxx not active for client yyyy.
```

Description

DAS/2 received a request involving a drive that is not set in an active (UP) status for the requesting client.

Action

Verify that the client specified the correct drive. Then change the drive allocation status to active (`UP`) for the requesting client. If the drive is already active for another client, you must change the drive status to inactive (`DOWN`) for that client, prior to changing the status for the requesting client.

Correct the drive allocation status and retry the command. If the problem persists, report it to your DAS support representative.

5.2.53 DAS4063

```
Drive xxxx does not match type yyyy for volser zzzz.
```

Description

DAS/2 received a request with a volser and volser type which are not supported by the specified drive.

Action

Verify that the command sent the correct volser with the specified media type and that the correct drive was selected.

Correct the command parameters and retry the command. If the problem persists, report it to your DAS support representative.

5.2.54 DAS4064

```
Drive xxxx not available for mount request from client
yyyy.
```

Description

DAS/2 received a request to mount a volume in a specified drive, but the drive is currently not available to service the mount request.

Action

Verify that the command specified the correct drive. Make sure that the DAS configuration file has the correct `dismount/no_dismount` option defined.

Correct the command parameters or DAS configuration and retry the command. If the problem persists, report it to your DAS support representative.

5.2.55 DAS4065

```
Drive xxxx is currently being cleaned.
```

Description

DAS/2 received a request involving a drive that is currently being cleaned.

Action

Let the drive cleaning operation complete and reissue the command. If the problem persists, report it to your DAS support representative.

5.2.56 DAS4070

```
Keep request from client xxxx - volser yyyy, drive zzzz.
```

Description

DAS/2 received a request to dismount a volser from a drive.

Action

This is an information message and does not require intervention.

5.2.57 DAS4071

```
Keep request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed a request to dismount a volume from a drive.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.58 DAS4072

```
Volser xxxx not mounted.
```

Description

DAS/2 received a request to dismount media from a drive, but the specified volser is not mounted.

Action

Verify that the command specified the correct volser and make sure the volser had been mounted earlier. If the problem persists, report it to your DAS support representative.

5.2.59 DAS4080

```
Insert request from client xxxx for area yyyy.
```

Description

DAS/2 received a request to insert media into the archive.

Action

This is an information message and does not require intervention.

5.2.60 DAS4081

```
Insert request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed a request to insert volumes into the archive.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.61 DAS4082

```
Area xxxx is not an insert area.
```

Description

DAS/2 received a request to insert media into the archive, but the specified insert area name is not defined to be an insert area.

Action

Verify that the command specified the correct area name. Make sure the DAS configuration file defines the insert area name in the client's `inserts` configuration parameter.

Correct the problem and retry the command. If the problem persists, report it to your DAS support representative.

5.2.62 DAS4090

```
Eject request from client xxxx - volser yyyy, area zzzz.
```

Description

DAS/2 received a request to eject media from the archive.

Action

This is an information message and does not require intervention.

5.2.63 DAS4091

```
Eject request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed an eject operation.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.64 DAS4092

```
Area xxxx is not an eject area.
```

Description

DAS/2 received a request to eject media from the archive, but the specified eject area name is not defined as an eject area.

Action

Verify that the command specified the correct area name. Make sure the DAS configuration file defines the eject area name in the client's `ejects` configuration parameter.

Correct the problem and retry the command. If the problem persists, report it to your DAS support representative.

5.2.65 DAS4093

```
Area xxxx cannot store media type yyyy.
```

Description

DAS/2 received a request to eject media, but the specified area name is not configured to store the media type requested by the command.

Action

Verify that the command specifies the correct area name and the correct volser range. Make sure the AMS configuration defines the area name to store the requested media type.

Correct the problem and retry the command. If the problem persists, report it to your DAS support representative.

5.2.66 DAS4094

```
Volser xxxx not available.
```

Description

DAS/2 received a request for a volume that is not available to the client.

Action

Verify that the correct volser is specified and that the volser is listed within the client's volser range in the DAS configuration file. Make sure that the volser is physically present in the archive.

Determine the cause of the problem and if necessary correct the DAS configuration file, or perform an inventory of the archive. If the problem persists, report it to your DAS support representative.

5.2.67 DAS4095

```
Volser xxxx does not match media type yyyy.
```

Description

DAS/2 received a request involving a volser which does not match the specified media type.

Action

Verify that the correct parameters for volser and media type are given.

Correct the parameter mismatch and retry the command. If the problem persists, report it to your DAS support representative.

5.2.68 DAS4096

```
Eject area is full. Please empty...
```

Description

DAS/2 received a request to eject media. However, the command is paused, as the eject area is full.

Action

Empty the eject area and close the I/O unit. The archive will perform an inventory to determine which eject area positions have been emptied. DAS/2 will then continue the eject operation.

5.2.69 DAS4100

```
Inventory request from client xxxx.
```

Description

DAS/2 received a request to inventory the archive. The archive inventory command operates while other commands to mount and dismount media are serviced.

Action

This is an information message and does not require intervention.

Information

Although the inventory operates in the background while other requests are issued and serviced, it is recommended to complete the inventory before additional commands are sent. This guarantees that the database is updated to an accurate state, and possible failing mount and dismount commands are not interfering with this update.

5.2.70 DAS4101

```
Inventory request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed the previously issued inventory command.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.71 DAS4102

```
Inventory request already active.
```

Description

DAS/2 received a request to inventory the archive, but an inventory command is already active and currently operating.

Action

The inventory command is not issued to the AMU AMS, as the previous and currently active inventory command provides the requested action.

This is an information message and does not require intervention.

5.2.72 DAS4110

```
List request from client xxxx.
```

Description

DAS/2 received a request to list operational parameters for a specified client.

Action

This is an information message and does not require intervention.

5.2.73 DAS4111

```
List request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 successfully completed the previously issued list command.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.74 DAS4120

```
Cancel request from client xxxx.
```

Description

DAS/2 received a request to cancel a command previously issued to the DAS server.

Action

This is an information message and does not require intervention.

5.2.75 DAS4121

```
Cancel request from client xxxx completed (not) successful.
```

Description

DAS/2 completed the previously issued `cancel` command.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.76 DAS4130

```
Shutdown request from client xxxx.
```

Description

DAS/2 received a request to shut down the DAS server operation.

Action

This is an information message and does not require intervention.

5.2.77 DAS4131

```
Shutdown request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed the `shutdown` command.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.78 DAS4140

Drive status request from client xxxx.

Description

DAS/2 received a request to return the current drive status.

Action

This is an information message and does not require intervention.

5.2.79 DAS4141

```
Drive status request from client xxxx completed (not)
successful.
```

Description

DAS/2 completed the previously issued drive status command.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.80 DAS4150

```
Client status request from client xxxx for client yyyy.
```

Description

DAS/2 received a request to return the status for a specified client.

Action

This is an information message and does not require intervention.

5.2.81 DAS4151

Client status request from client xxxx completed (not) successful.

Description

DAS/2 completed the previously issued client status command .

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.82 DAS4160

```
DAS version request from client xxxx.
```

Description

DAS/2 received a request to return the DAS server version.

Action

This is an information message and does not require intervention.

5.2.83 DAS4161

```
DAS version request from client xxxx completed (not)
successful.
```

Description

DAS/2 completed the previously issued DAS version request .

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.84 DAS4170

```
Volser range request from client xxxx.
```

Description

DAS/2 received a request to return a list of volsers defined to the requesting client within a specified volser range.

Action

This is an information message and does not require intervention.

5.2.85 DAS4171

```
Volser range request from client xxxx completed (not)
successful.
```

Description

DAS/2 completed the previously issued volser range request.

Actionµ

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.86 DAS4180

```
View request from client xxxx.
```

Description

DAS/2 received a request to return the current drive status.

Action

This is an information message and does not require intervention.

5.2.87 DAS4181

```
View request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed the previously issued view volser request.

Action

This is an information message. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.88 DAS4190

```
Init request from client xxxx.
```

Description

DAS/2 received a request to initialize an ACI client.

Action

This message is informational and does not require intervention.

5.2.89 DAS4191

```
Init request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed the previously issued initialization command.

Action

This message is informational. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.2.90 DAS4200

```
Scratch request from client xxxx.
```

Description

DAS/2 received a request to return a scratch media volser to the requesting client.

Action

This message is informational and does not require intervention.

5.2.91 DAS4201

```
Scratch request from client xxxx completed (not) suc-
cessful.
```

Description

DAS/2 completed the previously requested scratch media request.

Action

This message is informational. Intervention are neccessary, if the request completed not successful. Look for futher error messagesin the Logfile.

5.3 DAS ACI Messages

The following messages are the DAS ACI informational and error messages:

5.3.1 ACI0001

```
Invalid value assigned to d_errno (xxxx).
```

Description

An ACI request ended with an error. The DAS error number d_errno is checked to determine the cause of the error, but the assigned error number is not valid.

Action

Since an internal ACI error occurred, report the problem to your DAS support representative.

5.3.2 ACI0002

```
xxxx not defined in the environment.
```

Description

During initialization of the DAS ACI component, the environment variables `DAS_SERVER` and `DAS_CLIENT` are searched to determine the DAS server's IP address and the name of the DAS client. The environment variable listed in the error message is not defined to the ACI.

Action

Set the specified environment variable and restart the client application, or DAS-ADMIN command. If the problem persists, report it to your DAS support representative.

5.3.3 ACI0003

```
Unable to get IP address of xxxx.
```

Description

During ACI initialization, the `DAS_SERVER` environment variable defined a host name, which requires IP address resolution. The host name and associated IP address could not be resolved by the „ETC\HOSTS“ file or name server.

Action

Verify that the host name in the `DAS_SERVER` environment variable is set correctly. Make sure the „ETC\HOSTS“ file or name server has the host name and associated TCP/IP address defined. Once corrected, retry the command.

If the problem persists, report it to your DAS support representative.

5.3.4 ACI0004

```
Function clnttcp_create failed.
```

Description

During ACI initialization, an RPC setup error occurred in function `clnttcp_create()`. The ACI component cannot initialize and ends.

Action

Make sure the RPC services are started correctly. Issue an `rpcinfo -p` command to view the RPC status.

Make sure the environment variable `DAS_SERVER` specifies the DAS server IP address, or host name, and that the host name can be resolved into an IP address.

General debugging, such as `ping` operations may be necessary to determine the problem. Retry the command. If the problem persists, report it to your DAS support representative.

5.3.5 ACI0005

```
Function clnt_call (rc = xxxx) failed.
```

Description

During ACI initialization, an RPC setup error occurred in function `clnt_call()`. The ACI component cannot initialize and ends.

Action

Report the problem to your DAS support representative.

5.3.6 ACI0006

```
RPC could not reply to NULLPROC.
```

Description

During RPC communication an RPC error occurred. The ACI component cannot correct the problem.

Action

Report the problem to your DAS support representative.

5.3.7 ACI0007

```
RPC could not get arguments.
```

Description

During RPC communication, RPC services could not obtain necessary arguments. The ACI component cannot correct the problem.

Action

Report the problem to your DAS support representative.

5.3.8 ACI0008

```
RPC could not reply to DAS.
```

Description

The ACI component's RPC service could not communicate to the DAS server component. The ACI component cannot correct the problem.

Action

Report the problem to your DAS support representative.

5.3.9 ACI0009

```
RPC could not free arguments.
```

Description

The ACI component's RPC service could not free previously obtained arguments. The ACI component cannot correct the problem.

Action

Report the problem to your DAS support representative.

5.3.10 ACI0010

```
Function sysconf failed.
```

Description

The ACI component's `sysconf()` function failed. The ACI component cannot correct the problem.

Action

Report the problem to your DAS support representative.

5.3.11 ACI0011

```
Error in function select: xxxx.
```

Description

An internal DAS ACI error occurred. The ACI cannot correct the problem.

Action

Report the problem to your DAS support representative.

5.3.12 ACI0012

```
Function svctcp_create failed.
```

Description

An internal DAS ACI error occurred. The ACI cannot correct the problem.

Action

Report the problem to your DAS support representative.

5.3.13 ACI0013

```
Failure obtaining RPC program number.
```

Description

An internal DAS ACI error occurred. The ACI cannot correct the problem.

Action

Report the problem to your DAS support representative.

5.3.14 ACI0014

```
Function svc_register failed.
```

Description

An internal DAS ACI error occurred. The ACI cannot correct the problem.

Action

Report the problem to your DAS support representative.

5.3.15 ACI0015

```
RPC failed. DAS initial response is xxxx.
```

Description

An internal DAS ACI RPC error occurred. The ACI cannot correct the problem.

Action

Note the DAS response value displayed in the error message and report the problem to your DAS support representative.

5.3.16 ACI0020

```
xxxx is not defined.
```

Description

A syntax error occurred with the item listed in the error message. The ACI cannot continue successfully unless the problem is corrected.

Action

Correct the problem and retry the command.

If the problem persists, report it to your DAS support representative.

5.3.17 ACI0021

```
xxxx yyyy is longer than zzzz.
```

Description

The string type xxxx, with name yyyy is longer than the maximum allowed length definition zzzz.

Action

Correct the string length definition for xxxx of name yyyy and retry the operation.

If the problem persists, report it to your DAS support representative.

5.3.18 ACI0022

```
xxxx yyyy contains an invalid character.
```

Description

The parameter xxxx with name yyyy contains a character that is not alphanumeric.

Action

Verify that the parameter does not contain an invalid character. Correct the parameter if necessary and retry the operation.

If the problem persists, report it to your DAS support representative.

5.3.19 ACI0023

```
Invalid xxxx.
```

Description

A request failed due to an invalid parameter displayed as xxxx.

Action

Verify that the parameter xxxx is valid. Correct the parameter if necessary and retry the operation.

If the problem persists, report it to your DAS support representative.

5.3.20 ACI0024

```
Hostname xxxx is not correct.
```

Description

The host name xxxx cannot be resolved to obtain the associated TCP/IP address. The ACI cannot route the command to the DAS server.

Action

Verify that the TCP/IP host file or name server definition has the host name defined correctly. Perform a `ping` operation to the host, using the host name xxxx to determine that the host name can be resolved. Correct the „ETC\HOSTS“ file entry or name server definition appropriately and retry the operation.

If the problem persists, report it to your DAS support representative.

5.4 DAS Server to ACI Client Messages

The following list of messages may be displayed when the DAS server did not communicate an error string for an error condition (d_errno):

5.4.1 0 EOK

```
The request was successful.
```

Description

A request completed successfully.

Action

No intervention required.

5.4.2 1 ERPC

```
An RPC failure occurred.
```

Description

A client request could not be sent to the DAS server component, or the DAS server did not reply.

Action

Verify that TCP/IP services including portmapping services are started both on the client and AMU controller PC.

Make sure the RPC services are started correctly. Issue a `rpcinfo -p` command to view the RPC status.

Make sure the environment variable `DAS_SERVER` specifies the DAS server IP address, or host name, and that the host name can be resolved into an IP address.

General debugging, such as `ping` operations may be necessary to determine the problem. Retry the command. If the problem persists, report it to your DAS support representative.

5.4.3 2 EINVALID

```
An ACI parameter is invalid.
```

Description

A request was issued, but one of the command parameters is incorrect.

Action

Verify that the command parameters conform to the `DASADMIN` command help screen and/or DAS Interfacing Guide ACI Functions specifications. Correct the parameter and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.4 3 ENOVOLUME

```
A volume of this type was not found.
```

Description

A request was issued involving a volume of a specified media type. However, a volume of specified media type was not found.

Action

Verify that the specified volser exists, and that it has the specified media type. Retry the command with a corrected volser name, or different media type.

If the problem persists, report it to your DAS support representative.

5.4.5 4 ENODRIVE

```
The drive is not defined in the AML.
```

Description

A request was made involving a drive that is not configured in the AMU AMS configuration.

Action

Verify that the drive configuration in the DAS server configuration file matches the AMU AMS configuration and physical configuration in the archive. Correct the drive name or drive configuration and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.6 5 EDRVOCCUPIED

```
The requested drive is currently in use.
```

Description

A request was made involving a drive that is currently busy.

Action

Wait until the drive is available. Then retry the command.

If the problem persists, report it to your DAS support representative.

5.4.7 6 EPROBVOL

```
The robot encountered a problem handling the volume.
```

Description

A request was issued to move a volume, but the volume handling failed, or the bar-code could not be read. The volume is moved to the problem box or I/O unit.

Action

Determine and correct the robot handling problem and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.8 7 EAMU

```
An unexpected response code was received from the AMU.
```

Description

A request was issued to the AMU AMS, but the request returned an invalid response code.

Action

Analyze the AMU AMS log window to determine the cause for the error. Correct the error condition if necessary.

If the problem persists, report it to your DAS support representative.

5.4.9 8 EAMUCOMM

```
DAS was unable to communicate with the AMU.
```

Description

The DAS server issued a request to the AMU AMS, but the AMU AMS did not acknowledge receipt.

Action

Verify that the AMU AMS is running and that the log window does not show any communication errors. Shut down the DAS server, shut down the AMU AMS, and restart the AMS and then the DAS server. Then retry the command.

If the problem persists, report it to your DAS support representative.

5.4.10 9 EROBOT

```
The robotic system is not functioning.
```

Description

A request was made to move media, but the archive was unable to successfully execute the command.

Action

Determine the cause of the problem from the AMU AMS log window. Correct the problem and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.11 10 EROBOTCOMM

```
The AMU was unable to communicate with the robot.
```

Description

A request was issued to the archive, but the archive's robot did not respond. The command could not be sent, or the command response was not received.

Action

Verify that the archive is online, and that the AMU AMS log window does not show communication problems with the robot. Correct the AMU to robot communication problem and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.12 11 ENODAS

```
DAS is not active.
```

Description

A command was sent to request DAS server services, but the DAS server is not active.

Action

Verify that the DAS server is active. Start or restart the DAS server. If the DAS server fails initialization, make sure the AMU archive management software is running and that the TCP/IP services including the portmapper have been started.

If the problem persists, report it to your DAS support representative.

5.4.13 12 EDEVEMPTY

```
The drive did not eject a volume.
```

Description

A request was made to dismount a volume, but the drive did not eject the volume. The archive was unable to move the volume.

Action

Verify that the drive ejected the volume. Then retry the command.

If the problem persists, report it to your DAS support representative.

5.4.14 13 ENOTREG

```
The client is not registered with DAS.
```

Description

A request was made from a client which is not defined in the DAS server configuration file.

Action

Verify that the client's `DAS_CLIENT` environment variable is set to a client name that is defined in the DAS server configuration file. Correct the client name, or add the client to the DAS server configuration. Restart the DAS server and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.15 14 EBADHOST

```
The hostname or IP address is not valid.
```

Description

A request was made from a client, which is not defined accordingly to the DAS server. The supplied host name or TCP/IP address of the client's request packet does not match the DAS server client configuration, or the client name could not be resolved.

Action

Verify that the client configured the `DAS_CLIENT` environment variable according to the DAS server configuration file, and that the client's IP address in the configuration file matches the actual IP address of the client work station. Correct the configuration mismatch and retry the command. If a hostname was sent, make sure the TCP/IP configuration lists the name in the TCP/IP „ETC/HOSTS“ file to allow name resolution.

If the problem persists, report it to your DAS support representative.

5.4.16 15 ENOAREA

```
The area name does not exist.
```

Description

A request was made involving an insert or eject area name that is not configured for the requesting client in the DAS server configuration file, or is not configured in the AMU AMS configuration.

Action

Verify that the the area name is defined for the client and that the area is logically configured and present in the archive. Retry the command if the area name was not configured correctly.

If the problem persists, report it to your DAS support representative.

5.4.17 16 ENOTAUTH

```
The client is not authorized to make this request.
```

Description

A request was made to initiate an operation that requires an access privilege of `complete`. Sine the requesting client has only `basic` access rights, the request is refused.

Action

Verify that the client should be authorized to have administration access rights (`complete`) and then modify the access right privilege accordingly.

If the problem persists, report it to your DAS support representative.

5.4.18 17 EDYNFULL

```
The dynamic archive area is full; insertion stopped...
```

Description

A request was made to insert a volser into a dynamically defined area within the archive. However, dynamically defined areas are not available, or the volser range for the dynamically defined area is not set correctly to provide bin selections for insert requests.

Action

Make sure the AMU AMS archive has positions for the particular media type available and defined as an **`AMU Dynamic`** storage type. Configure the storage area accordingly and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.19 18 EUPELSE

```
The drive is currently assigned to another client.
```

Description

A request was made to access a drive that is currently not available for use by the requesting client.

Action

Verify that the drive status is active (`UP`) for the requesting client. If not assigned to the requesting client, determine whether the drive is active for another client or whether the drive status is inactive (`DOWN`). If the drive is inactive, change its status to active for the requesting client. If the drive is assigned active to another client, make sure the client does not require the drive service, have the client change the drive status to inactive, and then set the drive status to active for the requesting client.

If the problem persists, report it to your DAS support representative.

5.4.20 19 EBADCLIENT

```
The client does not exist.
```

Description

A request was made involving a client name that is not defined to the DAS server.

Action

Verify that the client name is defined in the DAS configuration file or added dynamically to the DAS configuration. Define the client and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.21 20 EBADDYN

```
The dynamic area does not exist.
```

Description

A request was made involving a dynamic insert or eject area. The dynamic area may not be defined in the DAS server configuration file for the requesting client, or the area may not be defined as a logical range in the AMU AMS configuration.

Action

Verify that the dynamic area is defined for the client in the DAS server configuration file, is physically present in the archive, and logically defined in the AMU AMS configuration. Correct the configuration and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.22 21 ENOREQ

```
A request with this number does not exist.
```

Description

A request was made to cancel a client request. However, the request ID identifying the command to be cancelled does not exist.

Action

Verify that the `cancel` command issues the correct request ID. If valid, the command may have completed already, and the request ID may no longer exist.

If the problem persists, report it to your DAS support representative.

5.4.23 22 ERETRYL

```
Retry attempts exceeded.
```

Description

A request was issued to the DAS server and sent to the AMU AMS. Failed commands such as time-outs are retried to make sure the command succeeds. However, the maximum number of command retries was exceeded.

Action

View the AMU AMS Log window to determine whether the commands were issued successfully and whether any problems were reported. Correct the AMU AMS or archive error condition and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.24 23 ENOTMOUNTED

```
The requested volser is not mounted.
```

Description

A request was issued to dismount a volume. However, the volser is not mounted.

Action

Make sure the command specifies the correct volser and that the volser was mounted earlier. The AMU AMS log window may give additional information whether a dismount operation has already been performed.

Verify that the DAS configuration file specifies the correct `dismount/no_dismount` options parameter for the requesting client, as DAS may have initiated the dismount operation to service a mount request.

If the problem can not be determined, report it to your DAS support representative.

5.4.25 24 EINUSE

```
The requested volser is in use.
```

Description

A request was made involving a volser that is currently used.

Action

Wait until the volser is no longer busy. Then retry the command.

If the problem persists, report it to your DAS support representative.

5.4.26 25 ENOSPACE

```
Not enough space available to add the requested range.
```

Description

A request was made to add a volser range to the DAS configuration. However, the maximum number of 10 volser ranges has already been defined.

Action

Reduce the client's number of volser ranges to allow a new volser range definition. A volser range may be deleted dynamically with the DASADMIN `scop` command, or may be reconfigured in the DAS server „CONFIG“ file.

If the problem persists, report it to your DAS support representative.

5.4.27 26 ENOTFOUND

```
The range or object cannot be found.
```

Description

A client request contained a resource that is not configured or present in the archive.

Action

Verify that the specified resource is defined correctly in the DAS server config file and that the archive is configured accordingly.

If the problem persists, report it to your DAS support representative.

5.4.28 27 ECANCELLED

```
The request was canceled.
```

Description

A previously issued request has been canceled by a `cancel` or `shutdown` request.

Action

No intervention required.

5.4.29 28 EDASINT

```
An internal DAS error occurred.
```

Description

The DAS server component encountered an internal error and cannot continue.

Action

Check the AMU AMS Log window and DAS server session to determine the event that caused this problem. If necessary correct the error condition and restart the DAS server.

If the problem persists, report it to your DAS support representative.

5.4.30 29 EACIINT

```
An internal ACI error occurred.
```

Description

A client request caused a problem within the ACI component. The ACI cannot determine the cause of the error and cannot recover.

Action

Determine the events that lead to the error. Correct the error condition and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.31 30 EMOREDATA

```
More data available.
```

Description

A `qvolsrange` request was made to retrieve a range of available volsers. The first request completed successfully and indicates that more volsers are available within the specified volser range.

Action

The command completed successfully. No further action is required. However, additional requests may be issued to obtain additional volsers. The function `qvolsrange` returns with return code 0 once the command completes successfully and no more data is available.

5.4.32 31 ENOMATCH

```
Command parameters do not match.
```

Description

A request was made with command parameters that conflict. The conflicting command parameter cannot be determined, as any one of the mismatching parameters may cause an error.

Action

Verify that the command request contains the correct command parameters according to the DAS Reference Guide, or the DASADMIN command help screen. Correct the command request parameters and retry the command.

If the problem persists, report it to your DAS support representative.

5.4.33 32 EOTHERPOOL

```
Volser defined to another pool.
```

Description

A request was made to add a volser to a specified scratch pool, but the volser is already defined within another pool.

Action

Specify the correct pool name, or undefine the volser in the other pool to allow defining the volser to the requested pool.

If the problem persists, report it to your DAS support representative.

5.4.34 33 ECLEANING

```
Drive is currently being cleaned.
```

Description

A request was made involving a drive that had been selected by the DAS server for a cleaning operation.

Action

Wait until the drive clean operation completes. Then retry the operation.

If the problem persists, report it to your DAS support representative.

5.4.35 34 ETIMEOUT

```
The ACI request timed out.
```

Description

The maximum time for ACI request time exceed.

Action

Check the life status of the AML (AMS command **Status**). Then retry the operation.

If the problem persists, report it to your DAS support representative.

6 DAS Tools

The OS/2 DAS directory structure contains several OS/2 command files and programs to provide additional tools to facilitate DAS administration. Such program tools and command files are found in the \DAS\BIN, and \DAS\TOOLS directory.

Information

The functions in the directory \DAS\TOOLS are „GOODIES“ and part of the software garanting.

6.1 AMU Log Monitor

`amulog [-l n-lines] (-p pattern] [logfile] [-h]`

Operations of the DAS server are displayed in the AMS **Log Control Center** window on the AMU controller PC. To provide remote access to this Log to view AMS and DAS messages, a `TELNET` session may be established to invoke the „DAS\BIN\AMULOG.EXE“ program, which will display all log information to the remote user within an OS/2 window.

Parameter	Explanation
n-lines	The `-l` switch displays only the last number of lines within the log file, and then proceeds with new online messages.
pattern	The `-p` switch displays only selected messages that map into the pattern. E.g., `amulog -p DAS`, displayes only DAS messages and does not show any AMS messages.
logfile	Adding a log file name to the program invokation selects one of the stored AMU log files. The log files are stored in the „AMU\LOGS-TRC“ directory. file names structure: `LOG day month . number (e.g. LOG0108.001)`
`-h`	displays AMULOG usage information

With „`q`“ will be stopped the AMU Log Monitor

6.2 RPC TEST (TCP/IP-Function)

```
rpcinfo -p
```

In case of problems communicating from an ACI client to the DAS server, RPC services may be tested to display which RPC services are started. In order to immediately identify the DAS 1.3 RPC services, the „TOOLS“ directory contains the file „RPC“, which may be copied to the „\TCPIP\ETC“ (TCP/IP 2.0) or „\MPTN\ETC“ (TCP/IP 3.0) directory to display the information

```
program vers proto   port
536875008    1   tcp   1024  GRAU_DAS2_13
```

6.3 DAS Delay

```
os2sleep time
```

The DAS server can only succesfully be started if the AMS is running. During execution of the OS/2 „STARTUP.CMD“ file, DAS invokation may have to be delayed to assure the AMS is initialized and activated.

.

Parameter	Explanation
time	delay time in seconds delays the DAS invocation until the time expires

6.4 startup.sample

A sample OS/2 startup.cmd file is provided in the „TOOLS“ directory, to show correct AMS and DAS server invocation. (☞ page 3 - 17)

6.5 DB/2 Query Tools

The directory „TOOLS\ DB2“ and „TOOLSDBM“, contains command files to acces DB/2 query tools.

Information

A „README“ file within the DB2 directory provides information regarding command usage. The database commands in TOOLS\DB2 need DB/2 version 2.0 and higher and TOOLS\DBM are for the other versions. (version display with command `syslevel`**)**

The following OS/2 command files are provided to query and update the AMU database with volume information:

- DB2_CNT2ZERO.CMD or DBM_CNT2ZERO.CMD
- DB2_SHOWPOOL.CMD or DBM_SHOWPOOL.CMD
- DB2_SHOWSCRATCH.CMD or DBM_SHOWSCRATCH.CMD
- DB2_SHOWVOLSER.CMD or DBM_SHOWVOLSER.CMD

DB2_CNT2ZERO.CMD/DBM_CNTZERO.CMD

The „CNT2ZERO.CMD“ command file sets all use and crash count information for all volumes in the AML to 0. This feature allows the DAS administrator to reset all values and obtain volume access information.

DB2_SHOWPOOL.CMD/DBM_SHOWPOOL.CMD

The „SHOWPOOL.CMD“ command file displays scratch pool information, where the database row `SUPER` is the pool name, and `DEFAULT+`*`AMU-media-type`* is the name for the default scratch pools.

DB2_SHOWSCRATCH.CMD/DBM_SHOWSCRATCH

`showscratch` *pool-name*
The „SHOWSCRATCH.CMD“ command file displays the scratch volsers for a given pool.

DB2_SHOWVOLSER.CMD/DBM_SHOWVOLSER.CMD

`showvolser` *volser-name*
The „SHOWVOLSER.CMD“ command file displays the pool and status of a specified volser (scratch or non-scratch media).

7 Appendix

7.1 Configuration of Client Applications

For the integration of the client software in the application, are same changes in the default configuration necessary. In the following chapter, you found the settings for the different applications.

7.1.1 Omniback

The software Omniback will distributed from the Hewlett-Packard GmbH for the operating systems

- HP-UX 9.x
- HP-UX 10.x

Path and Links

Check before you set the links for previous installed versions. Rename the old version of the files.

Information

With the Omniback II release 2.1 will installed a old version of the file libaci.sl.

The following links are neccessary:

HP-UX Version	orginal path	linked path
9.x	`/usr/local/aci/lib/libaci.sl`	`/usr/omni/lib/libaci.sl`
10.x		`/opt/omni/lib/libaci.sl`
9.x, 10.x	`/usr/local/aci/admin/dasadmin`	`/usr/local/das/admin/mm`

IInformation

Use the command `ln -s <orinal path> <linked path>` **for the setting of the symbolic links. Check with the commnad** `ls -l` **the new link.**

Environment Variables

The environment variables for the application must be set in the file

HP-UX Version	Path and filename
9.x	/usr/omni/.omnirc
10.x	/opt/omni/.omnirc

(☞ page 3 - 20)

```
DAS_SERVER=TCP/IP Hostname AMU-PC
DAS_CLIENT=Variable defined in DAS-Server file CONFIG
```

Drives

The names of the drives simular to the definition in the DAS config file and the Description in the AMU Graphical Configuration will be set in the Omniback Configuration dialog together with logical names of the drives.

Logical Ranges I/O Unit

The definition of the access to the I/O-unit for Omniback is in the file

HP-UX Version	Path and filename
9.x	/usr/omni/config/options/global
10.x	/etc/opt/omni/options/global

Example:

```
DASCaps = "E01 I01"
```

I01 and E01 are examples for the **Logical Ranges** in the AMU definition for the I/O unit (☞ AMU Rference Guide)

7.2 Terms Used

ACI
AML **C**lient **I**nterface

Application Program Interface for the AML

AML
ABBA Media Libary ; AML software and physical archive.

- /2 means 2nd version
- /E means Entry
- /J means junior.

AMS
Archive **M**anagement **S**oftware

The complete software package which controls the AML

AMU
AML **M**anagement **U**nit
Central intelligence of the DAS system. Consists of hardware and software (AMS and DAS).

API
Application **P**rogram **I**nterface a program residing on the client's platform used to interpret the client's requests and to provide all the network communication compatible with the interface requirements.

Archive
The archive consists of:

- physical archive and
- logical archive.

The physical archive consists of storage segments for tape cartridges and optical disks (= media). The logical archive (archive catalog) is the list of volsers assigned to the compartments in the physical archive.

Archive catalog
An OS/2 database with the logical archive. Contains the assignment of volsers to the compartments in the physical archive as well as further vital information about the media and the drives.

Bar code
An array of rectangular bars and spaces in a predetermined pattern (e.g., UPC symbol.)

Bin
A single medium storage location. Also referred to as a slot in some archives.

Cassette	A shell having two co-planar hubs, designed to hold magnetic recording tape. Used loosely, the same as Volume.
Cartridge	One or more physical volumes, bound in a transportable package with a human-readable external label.
Client	A volume server user that may be an application program.
Console	A human interface mechanism for controlling and monitoring system operation.
DAS	Distributed AML Server
Data	This term refers to information transferred over the network not including requests and operation responses.
dismount	The robotic action to remove media from a drive to storage.
Drive	A device used to read and write data on a medium.
eject	The physical action of removing a medium from an archive. For a robotic archive, the medium is robotically moved to the unload port for removal by the operator.
Eject area	The logical location within the I/O unit that accepts ejected media.
Ethernet	Interface standard defined by IEEE Standard 802.3
File	An individual collection of related data (e.g. a letter, a table, a digitized photograph).
Foreign (non-system) media	Cartridges not listed with a volser in the archive catalog. They are processed by the DAS system via the I/O unit.
ID	Identifier. In DAS the ID is usually referring to the volser, which is the identifier for a volume.
insert	The action of physically entering a medium into an archive. For a robotic archive, the operator places the medium in the archive's load port from which the robotics places the medium in the assigned bin.
Insert area	Logical location within the I/O unit that accepts inserted media.

I/O unit	A mechanical device into which an operator places media which are to be entered or removed from a robotic archive.
inventory	A physical action by the archive's robot to determine the storage contents of the AML.
Media	More than one medium.
Medium	A storage object that, when mounted in a drive/ recorder/reproducer, is available for read and write operations, but also for clean. Types include magnetic tape, magnetic disk, optical tape, and optical disk, clean tape.
mount	The robotic action to move media from storage to a drive.
Network	The physical and logical connection of computers and peripheral devices that allows communication and data sharing.
Network protocols	A set of rules defining the physical and logical connection.
OS/2	Operating system (multitasking, single user) that is used on the AMU controller PC.
PC	**P**ersonal **C**omputer.
RAM	**R**andom **A**ccess **M**emory
Robotic archive	A storage system featuring one or more robots for media handling.
RPC	**R**emote **P**rocedure **C**all - with XDR, RPC is the Session Layer (layer 5) and XDR is the Presentation Layer (layer 6) of the ISO/OSI layered client interface .
Scratch media	Media that has no client data and is free for use and reclassification.
Scratch pool	A collection of scratch media of the same media type.
Shelf archive	An identifiable set of continuous bins for storing media.
Slot	A single medium storage location. Also referred to as a bin in some archives.

Stage	A type of media storage area containing no assignable bin/slot locations.
System Administrator (SA)	The primary human controller of a computer system. The SA configures each archive, issues restricted commands, and generates reports appropriate to efficient management of the overall system.
Terabyte (TB)	10^{12} bytes, or one million megabytes.
User	Also known as the client or the client system.
Volume	A removable entity of tape media.
Volser, VSN	English: **vol**ume **ser**ial number An up to sixteen-digit alphanumeric designation. It identifies one medium (cartridge, optical disk) in the archive. Exception: optical disk has one logical compartment but two volsers (A and B side). The volser is attached to the rear of the medium on a barcode label and can be read by the handling unit.

7.3 Drive and Media Types

7.3.1 Media Types

Type	Explanation	AMU-Types
3480	3480 and 3490 and 3490E cartridges	C0
3590	3590/8590 cartridges	C2
OD-THIN	Optical disk Reflection (9 mm)	O0
OD-THICK	Optical disk 512, MO/WORM (11mm)	O1
CD	CD-ROM disk (CD-Caddy)	C6
TRAVAN	TRAVAN cartridge	V5
BETACAM	BETACAM cartridge	V8
DECDLT	TK-85 Digital Linear Tape (DLT)	C1
8MM	D8 cartridge (8 mm)	V1
4MM	DDS or DAT cartridge (4mm) (Digital Data Storage)	V2
VHS	VHS cartridge	V0
D2	D2 small and medium cartridge	V3 (V4)
DTF	DTF small and medium cartridge	V6 (V7)

7.3.2 Drive Types

DAS-Type	AMU Type	Drive Name and Number	Medium	Manufac-turer
TRAVAN-DRIVE	D1	Colorado T1000	TRAVAN	HP
HDS-7480	D2	6380	3480 cassette	COMPAREX
HDS-7480	D2	7480	3480 cassette	HDS
HDS-7490	D3	6390	3490 cassette	COMPAREX
HDS-7490	D3	7490	3490 cassette	HDS
IBM-3480-ACL	D7	3480 with ACL	3480 cassette	IBM
IBM-3480-ACL	D7	3580 with ACL	3480 cassette	SNI
IBM-3480	D8	3480 with cover	3480 cassette	IBM
IBM-3480	D8	3480 with cover	3480 cassette	SNI
IBM-3490	D9	5480	3480 cassette	MEMOREX
IBM-3490	D9	60/3590E	3490 cassette	MEMOREX
IBM-3490	D9	3580 without cover	3480 cassette	SNI
IBM-3490	D9	3590	3490 cassette	SNI
IBM-3490	D9	3480 without cover	3480 cassette	IBM
IBM-3490	D9	3490	3490 cassette	IBM
IBM-3490	D9	3490-TA91	3490 cassette	DIGITAL
IBM-3490	D9	9309 2	3490 cassette	IBM
AMPEX	DA	ER90	D2	AMPEX
AMPEX	DA	DST 310	D2	AMPEX
EXABYTE	DC	8205-8mm	8mm cassette	EXABYTE
EXABYTE	DC	DC MK 13	8mm cassette	SNI
EXABYTE	DC	7208 011, Mammouth	8mm cassette	IBM
DLT-DRIVE	DE	DLT 2000 (modified)	TK cassette	EMASS
DLT-DRIVE	DE	DLT 4000 (modified)	TK cassette	EMASS
DAT	DF	DDS 7206 005	4 mm cassette	IBM
DAT	DF	HP 6400/1300 S (DDS-1)	4 mm cassette	HP
DAT	DF	HP 6400/4000 DC (DDS-2)	4 mm cassette	HP
HP-1300	DH	HP 1300	OD 512	HP
IBM-3995	DJ	3995 Jukebox	OD 512	IBM
STK-4480	DK	4480	3480 cassette	STK
STK-4490	DL	4490 Silverstone	3480 cassette	STK
STK-4490	DL	9490 Timberline	3480 cassette	STK
IBM-3590	DN	3591	3590 cassette	SNI
IBM-3590	DN	3590 Magstar	3590 cassette	IBM
IBM-3590	DN	8590	3590 cassette	EMASS
OD-REFLECTION	DO	RF7010E, MF for external unit	OD Reflection	PLASMON
OD-REFLECTION	DO	RF7010X, MF	OD Reflection	PLASMON
OD-512	DP	IFD-1300-A Subsystem	OD 512	FUJITSU
OD-512	DP	OD 1300T	OD 512	HP

DAS-Type	AMU Type	Drive Name and Number	Medium	Manufac-turer
OD-512	DP	OD 6300 650/A	OD 512	HP
OD-512	DP	NWP-559	OD 512	SONY
OD-512	DP	MOD 2,6 GB	OD 512	SNI
OD-512	DP	OS 13	OD 512	SNI
OD-512	DP	Gigaburst	OD 512	STORM
PHILIPS-LMS	DQ	M2485	3490 cassette	Fujitsu
PHILIPS-LMS	DQ	M2483K-3480/90	3490 cassette	Fujitsu
PHILIPS-LMS	DQ	LMS TD 3610	3490 cassette	Philips
PHILIPS-LMS	DQ	7492	3480 cassette	HDS
STK-4890	DS	3588-GL	3490 cassette	SNI
STK-4890	DS	4890 TwinPeak	3490 cassette	STK
TANDEM-5180	DT	5180	3480 cassette	TANDEM
TANDEM-5190	DU	5190	3480 cassette	TANDEM
METRUM-VHS	DV	RSP 2150 Mountaingate	VHS Kassette	METRUM
CDROM	DW	OS 25 (HR 650)	CD-ROM	SNI
CDROM	DW	XM 3501B	CD-ROM	Toshiba
CDROM	DW	W2001	CD-ROM	SNI
BETACAM-DRIVE	DX	AKEBONO (GY-10D)	DTF-Small	SONY
BETACAM-DRIVE	DX	AKEBONO (GY-10C)	DTF-Large	SONY
AKEBONO-DTF	DZ	BetaCAM BTS PBC 2800P	BetaCAM	Beta CAM

7.4 DAS Configuration Information

Collect the following TCP/IP and client configuration information prior to configuring TCP/IP and DAS. Use the data from the tables below for the TCP/IP and DAS client configuration:

AMU-PC TCP/IP Address	
AMU-PC TCP/IP host name	

DAS client information (OS/2 client or network client):

Client		
Client TCP/IP address		
Client host name		
Client access permission:	basic____	complete____
Client access behavior	avc___	no_avc___
	dismount__	no_dismount__
Client drive range		
Client volume ranges		
Client eject areas		
Client insert areas		
Client scratch pools		

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