The ADIC
Distributed AML Server

DAS V3.10E Release Notes

Advanced Digital Information Corp

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Version 3.10E DAS Release Notes

This release note covers the Version 3.10 release of the DAS software. For questions about any of these notes, call the ADIC Technical Assistance Center at the appropriate number:

- USA 1.800.827.3822
- Europe/Africa +00.800.9999.3822

Requirements

The diskette of this DAS server and client version contains a complete version of DAS V3.1, and replaces previously installed versions of DAS software.

Three diskettes are delivered with this version. One contains the OS/2 DAS Server and the OS/2 DAS client, and the other two contain the clients (ACI) for UNIX or NT platforms.

The following software releases are required:

Table 1 Software Release Requirements

Software	Version
IBM OS/2	OS/2 Warp 3.0 or higher
IBM TCP/IP for OS/2	TCP/IP for OS/2 3.0 or higher
IBM DATABASE 2	DB/2 2.1.1 or higher
AMU	3.02 or higher

Client interfaces from earlier ACI revision levels are also maintained and supported.

See *Table 2* for a list of all platforms ACI 3.1 can run on.

Table 2 Platforms for ACI 3.1

Platform	Version	
AIX	4.2.1	
AIX	4.3.1	
AIX	4.3.3	
HPUX	10.2	32 bit

Table 2 Platforms for ACI 3.1

Platform	Version	
HPUX	11.0	32 bit
IRIX	5.3	32 bit
IRIX	6.4 (static)	32 bit
IRIX	6.4 (dynamic)	32 bit
IRIX	6.5 (static)	32 bit
IRIX	6.5 (dynamic)	32 bit
IRIX	6.5.5 (static)	32 bit
IRIX	6.5.5 (dynamic)	32 bit
Linux Red Hat	6.1 (dynamic)	32 bit
Microsoft Windows NT/Windows 2000	4.0	
OS/2 Warp Connect	3.0, 4.0	
OSF1	4.0 (static)	32 bit
Reliant Unix	5.44 (dynamic)	32 bit
Reliant Unix	5.45 (dynamic)	32 bit
Solaris	2.51 (dynamic)	32 bit
Solaris	2.6 (dynamic)	32 bit
Solaris	7.0 (dynamic)	32 bit

See *Table 3* for a list of supported media types.

Table 3 Supported Media Types

Type	Description	AMU	DAS Type
3480	1/2 inch Tape (different length available)	C0	3480
3490	1/2 inch Tape (different length available)	C0	3480
3490 E	1/2 inch Tape	C0	3480
3490E D-3	1/2 inch Tape (STK - Redwood)	C0	3490

Table 3 Supported Media Types

Type	Description	AMU	DAS Type
3590	1/2 inch Tape (NTP => New Tape Product)	C2	3590
4MM-60M	Digital Audio Tape (DAT)	V2	4MM
4MM-90M	Digital Audio Tape (DAT)	V2	4MM
4MM-120M	Digital Audio Tape (DAT)	V2	4MM
4MM-125M	Digital Audio Tape (DAT)	V2	4MM
8MM	8 mm Tape (different lengths available)	V1	8MM
8MM-112M	8 mm Tape 112 minutes	V1	8MM
8MM-160M	8 mm Tape 160 minutes	V1	8MM
8MM-54M	8 mm Tape 54 minutes	V1	8MM
Audio - cassette	Standard Audio Cassette	VA	AUDIO-TAPE
BetaCAM-Large	Analog Tape Format	V9	BETACAML
BetaCAM-Small	Analog Tape Format	V8	BETACAM
CD-Caddy	CD with enclosure	C6	CD
D1-M	D1 medium tape	V4	D2
D1-S	D1 small tape	V3	D2
D2-M	D2 medium tape	V4	D2
D2-S	D2 small tape	V3	D2
Digital BetaCAM-Large	Digital Tape Format (like DTF-L)	V9	BETACAML
Digital BetaCAM-Small	Digital Tape Format (like DTF-S)	V8	BETACAM
DLT Tape III XT	Digital Linear Tape	C1	DECDLT
DLT CompacTape -III	Digital Linear Tape	C1	DECDLT

Table 3 Supported Media Types

Type	Description	AMU	DAS Type
DLT CompacTape -IV	Digital Linear Tape	C1	DECDLT
DTF-L	DTF-Large tape, (Digital Tape Format)	V7	DTF
DTF-S	DTF-Small tape, (Digital Tape)	V6	DTF
LTO	LTO Ultrium	C3	LTO
OD-512	Optical Disk 5 1/2	O1	OD-Thick
OD-R	Optical Disk 5 1/2	O0	OD-Thin
SD-3	1/2 inch Tape (STK-Redwood)	C0	3480
S-VHS	Super - Video Home Service	V0	VHS
Sony AIT	8 mm Tape (different lengths available)	V1	SONY_AIT
TRAVAN TR-1	Streamer Tape	V5	TRAVAN
TARVAN TR-2	Streamer Tape	V5	TRAVAN
TARVAN TR-3	Streamer Tape	V5	TRAVAN
TARVAN TR-4	Streamer Tape	V5	TRAVAN
VHS	Video Home Service	V0	VHS
DVCM	DVD	VB	DVCM
DVCL	DVD	VB	DVCL

Updates

Updating any of these products should be performed by authorized and trained personnel.

Update from UNIX Server DAS 1.x

The update from UNIX DAS 1.x to DAS/2 3.1 should be performed by trained customer personnel. The update requires that the UNIX host DAS server is replaced with OS/2 DAS server software (AMU controller). AMU configuration changes, as well as client DAS_SERVER environment variable changes, are necessary. The AMU configured DAS host is no longer required.

Update from UNIX Server DAS 1.2x

The update from UNIX DAS 1.2x to DAS/2 3.1 should be performed by trained customer personnel. The update requires AMU configuration changes. The AMU configured DAS host is no longer required.

Update from OS/2 Server DAS 1.30x

The update from UNIX DAS 1.30x to DAS/2 3.1 should be performed by trained customer personnel. The update does not require AMU configuration changes.

Update from OS/2 Server DAS 3.01

The update from UNIX DAS 3.01 to DAS/2 3.1 should be performed by trained customer personnel. The update does not require AMU configuration changes.

Update from OS/2 Server DAS 3.02

The update from UNIX DAS 3.02 to DAS/2 3.1 should be performed by trained customer personnel. The update does not require AMU configuration changes.

DAS Installation and Configuration

Installation and configuration of the DAS products should be performed by authorized and trained personnel.

DAS Server Installation

Perform the following steps to install DAS:

Step 1 Press <Ctrl> + <TAB> to determine if the DAS Server is running.

The task list appears. If DAS is running, stop all operations via DAS commands.

Step 2 Open an OS/2-window and change to directory `c:\das\bin`. Type `cd c:\das\bin` then `<ENTER>`

Step 3 Stop the DAS Server by typing **`dasadmin shutdown.`**

Step 4 Insert the DAS diskette into drive A: of the AMU computer.

Step 5 Change to drive A:. Type `A:` then `<ENTER>`

Step 6 Type **dasfinst** then `<ENTER>`

Step 7 Decide which feature of the installation program to install. Type the corresponding installation option number.

Step 8 Follow the instructions of the installation program.

Step 9 If DAS is being updated, do not reboot the PC or re-configure DAS, or

For a new installation, continue with the DAS Server Configuration and then reboot the PC.

DAS Server Configuration

For more detailed information about DAS, refer to the *DAS Administration Guid*e. Follow the steps for the DAS Server configuration.

Step 1 For DUALDAS, the environment variable DAS_SERVER must be specified with the hostname or IP-address from one of the AMU-PC and, separated by a comma, the hostname or IP-address from the other AMU-PC.

Example: DAS_SERVER=activehostname, passivehostname, or;

DAS_SERVER=passivehostname, activehostname

Step 2 Ensure that the hostnames from the DAS Server and DAS Clients are set in the *hosts* file.

Step 3 Configure the **clientstatements** in the DAS *config* file.

Step 4 If necessary, configure the drive to volser attachments in the DAS *config* file.

It is possible to configure in the DAS configuration file a relation between drives and volsers in the following syntax:

```
DriveToVol    drive = DriveName,
              volsers =( (Volserrange1) | (Volser),
              (Volserrange2) | (Volser)) ,...)
```

For each drive that needs an attachment, a DriveToVol statement must be configured as above.

This means that only the specified volsers can be mounted into drive Drive1

When no relation for a drive in the configuration file exists, each volume of the correct type can be mounted into the drive.

The statement is optional.

Step 5 If using DUALDAS, ensure that the port 5000 is not being used by another application. If the port is in use, change the port in the Server statement of the DAS *config* file.

ACI Installation

Perform the following steps to install ACI on the UNIX platforms.

Step 1 Copy the ACI tar file in the directory `c:\das` of the AMU PC

Step 2 **Step 2** Copy the tar file to the client host using **FTP**.

Step 3 **Step 3** Unpack the tar file using **telnet** or directly at the UNIX host

ACI Configuration

- Set the environment variable DAS_SERVER correctly. If using DUALDAS, the variable contains both DAS Server
- Set the DAS_CLIENT environment variable correctly
- Set the ACI_MEDIA_TYPE environment variable correctly.

New Features in Version 3.10E

DAS 3.10E is required for AMU 3.10E.

The following is a list of new features in this release of the DAS.

Additional commands in dasadmin 3.10E :

- email (supported only in SDLC systems)
- snmp (supported only in SDLC systems)

PR89 - "'view' at only one drive at once"

There is an additional parameter in listd, listd2, listd3 commands:
dasadmin listd [clientname] [-d drivename]

If "-d" was specified then information will be shown only for this drive.

PR78 (ET40571) - "Command display foreign does not exist".

A new command "listf" was introduced to display foreign volsers.

PR94 - "Multiple pinvt with dasadmin must be available".

In previous versions only one "pinvt" dasadmin command could be executed per all dasadmin sessions. Now several "pinvt" commands can be issued.

PR75 - "DAS doesn't have an interface to return EIF configuration"

A new dasadmin command "eif_conf" was introduced in DAS 3.10E to display these logical ranges.

PR92 - "Inventory by volser with DAS".

A new dasadmin command "VolserInventory" was introduced in DAS 3.10E to have ability to inventory only one volser.

PR83 - "Real command cancellation in DAS is required".

There are two enhancements:

- DAS stores expiration information about all its commands. After a timeout expires, DAS wipes this command from its queue. In DAS 3.10E it will also send a cancellation command (PRGE) to AMU in order to purge this command from the AMU queue.
- A new command "list2" was introduced in DAS 3.10E to display enhanced information about its list of commands.

A new command "listd4" is added

This enhancement provides information about a drive's serial numbers.

ET38054 - "Enhancement in set_scratch command".

A new command "scr_set_range" is introduced in DAS 3.10E. This command can be used to add more then one volser to the scratch pool.

External table for mapping between AMU and DAS mediatypes.

In DAS 3.10E default mapping between AMU and DAS mediatypes can changed (to work with new media types with ISVs who don't have linked the actual ACI

New Features in Version 3.10A

The following is a list of new features in this release of the DAS.

ACI debug logging into a file.

It is possible to access and perform debug logging at standard output or in a file.

ACI debugging is configurable via the environment variable:

```
ACI_DEBUG_FILE
```

Shared access to drives.

A client can allocate a drive in SHARED_ACCESS mode. This allows multiple Clients to access the drive.

The drivestatus command now has new key words EXUP and SHARED_ACCESS.

- Enter EXUP as a key word for the clientname to show all drives which are allocated in EXUP mode.
- Enter SHARED_ACCESS as a key word for the clientname to show all drives which are allocated in the SHARED_ACCESS mode

New Features in Version 3.02

The following is a list of new features in Version 3.02 DAS.

Up- and Down compatibility of DAS to ACI:

This means that ACI can now run with an older version of the DAS Server. This is not possible with version of ACI < 3.02. In order for ACI 3.02 to talk with DAS 3.x, no special options need to be considered. However, for ACI 3.02 to talk with DAS 1.3x, the environment variable 'SERVERVERSION' needs to be set to '1.3' on the system.

Extended mode

An extended mode is implemented, in addition to basis and complete. In this mode you can use the following commands:

- drive status,
- drive status2,
- drive status3
- volser status
- query version
- query volsrange
- get volser to side
- get volser to drive
- view
- keep
- mount

In order to get this mode to follow, configure the statement of the configuration file of DAS in the client:

```
requests = extended,
```

ACI timeout

The timeout for some commands was set too short. This is corrected now.

Improved error handling

Extend the error mapping between DAS and AMU.

Add following AMU errors:

- AMU_INF_DUAL_DUMMY_1333
- AMU_ERR_DRV_HWFAULT

Improved logging of scratch

- The ‘scratch get‘ lists the found volser in the log.
- All scratch commands are listed separately in case of the ‘received message‘ and the ‘end message‘.

New Features in Version 3.01

The following is a list of new features in Version 3.01 DAS.

- A new drivestatus command gives the physical status of a drive.
  - ACI function aci_drivestatus3
  - dasadmin command listd3
- Support of the SONY AIT media (sony_ait).
- New server configuration parameter that configures which DAS commands should not write log messages.
  - Currently this is only possible for the drivestatus commands (listd, listd2 and listd3).
- Switch the barcode reading by the robot either `ON` or `OFF`.
  - ACI function aci_barcode
  - dasadmin command barcode
- Completely shutdown the AMU PC Computer shutdown.
  - ACI function aci_killamu
  - dasadmin command killamu
- Support for the CLEANMANAGER in the AMU 3.0.
  Clean Drives:
  - ACI function aci_cleandrive
  - dasadmin command clean
  - Mount a cleantape from a cleanpool to a drive
  - Insert cleantapes from IE facility to a cleanpool
  - Eject cleantapes from a cleanpool to IE facility
- New insert command that returns more information about inserted tapes.
  Insert Cleantapes.
  - ACI function aci_insert2
  - dasadmin command insert2
- New eject command that returns more information about ejected tapes
  Eject Cleantapes:
  - ACI function aci_ejectcl
  - dasadmin command ejectcl

  Eject2:
  - ACI function aci_eject2
  - dasadmin command eject2

- Switch the passive AMU and DAS to the active AMU and DAS.
  Switch the AMU:
  - ACI function aci_switch
  - dasadmin command switch
- Set the drives force `UP` and `DOWN`.
- Support HICAP.
- Support DUAL DAS as a redundant interface for Unix to Hosts interface that use TCP/IP.
- Support a command to flip a volume from side A to B or side B to A in a drive.
  Flip volumes:
  - ACI function aci_flip
  - dasadmin command flip
- Support volser attachment to either side A or side B
  Get volser attachment to either side:
  - ACI function aci_getvolsertoside
  - dasadmin command getvoltoside
- Support a new drive access to allocate a drive with *exclusive* status.
  Get volser to drive attachment:
  - ACI function aci_getvolsertodrive
  - dasadmin command getvolsertodrive

  Exclusive driveaccess:
  - ACI function aci_driveaccess
  - dasadmin command allocd
- Support a command to allocate volsers.
  Volseraccess:
  - ACI function aci_volseraccess
  - dasadmin command allocv

  Volserstatus:
  - ACI function aci_volserstatus
  - dasadmin command istv
- Support the possibility to define a volser attachment to a drive in the *config* file.
- Support Log ID (1 .. 9999) for mount and dismount.

- Support a Server Statement in the configuration file to configure:
  - Port for DUALDAS
  - Retry for dismount
  - Timeout for mount and dismount
  - Timeout for insert and eject

It is possible to configure a server statement in the following syntax in the DAS configuration file:

server dualdas_port = port number,
retry_keep = retry number,
timeout_move = timeout value,
timeout_ei = timeout value

Parameter	**Value**
dualdas_port	port number (5000)
retry_keep	retry number (xx .. yy)
timeout_move	timeout move (xx .. yy) in seconds for mounts and dismounts.
timeout_ie	timeout move (xx .. yy) in seconds for insert or eject requests.

For each change of the timeout value, also set the timeout in the environment variable at the aci to the same value.

timeout_move	ACI_TIMEOUT_MOVE environment variable.
timeout_ei	ACI_TIMEOUT_EI environment variable.

- If the error AMU_ERR_MEDIATYPEMISMATCH comes up, the eject returns ENOMATCH.
- If the error AMU_ERR_MEDIATYPEMISMATCH comes up, the insert returns ENOMATCH.
- Additional return values:

ESWITCHINPROGRESS	A request was issued during a switch
EHICAPINUSE	A request was issued during a HICAP request
ENOPOOL	The specified cleanpool doesn't exist
EAREAFULL	The eject area is full (eject cleantapes)
ENODOUBLESIDE	The volser does not have two sides
EEXUP	The drive is *EXUP* for another client

EPROBDEV	The robot has a problem with handling the device
ECOORDINATE	One or more coordinates are wrong
EAREAEMPTY	Area that is to be ejected is already empty.
EBARCODE	Barcode read error.
EUPDOWN	Client tried to allocate volsers that are already allocated.
EDATABASE	There was an error during reading and writing of the database.
ENOROBOT	The robot is not configured.
EINVALIDDEV	The device is invalid.

DAS 3.01.2 Fixpack

The following improvements have been made to DAS version 3.01 through the introduction of the Fixpack:

- Improved error mapping between AMU and DAS. See *Table 4*.

Table 4 Error Mapping

Error Code	Define Statement	d_error
1331	AMU_INF_DUAL_DUMMY_1331	EAMUCOMM
1332	AMU_INF_DUAL_DUMMT_1332	ESWITCHINPROG

- Improved logging regarding DUAL DAS and DUAL AMU
- Improved logging regarding scratch handling
- Support of two additional notifications from AMU
  - **NTFY1336**: Switching ADS failed
    DAS starts roll back and does not continue the switch process
  - **NTFY1337**: Device (robot, tower) not ready, but switching succeeded
    DAS continues the switch process

Corrections in DAS 3.10E

Addressed Problem Logs

Table 5 Problems solved with DAS 3.10E

Ticket Number	Description
ET60330	"Cleanpool with 16 chars doesn't work". There is a bug with incorrect setting of field value in AMU telegram, which will be fixed.
	In dasadmin "scr_insert" command another aci function with a larger buffer size for volsers can be used. The old aci function (aci_insert()) might have a problem with large EIF and double-sided (optical) volsers.
ET56507	"DAS/ACI timeout to 1st server when network is down". The ability of preliminary testing of connection with DAS server has been added. If DAS/2 and ACI clients will be started with the PORT_PING=<port> environment variable set then this ability will be activated.
ET33777	"Eject has limited number of volsers". "eject2" command in dasadmin has a limited buffer size for volsers (100 bytes). Now the "eject3" command is similar to "eject2" but has a buffer size of 512 bytes.
PR97	"Mount failed after issued PINVT". There is a bug in the DAS code, related to improper handling of RPC task number. Will be fixed.
	"Scr_set command works wrong". There is a bug causing improper handling of media types in the "scr_set" branch. This prohibited users from inserting cartridges in scratch pool if the use count of cartridges was not equal to zero.
PR82	"DAS:allocv: The manual says that a check of the Volser in the given range will be made as to one is available or mounted". DAS doesn't check the availability of the requested volser and could return a positive answer for a mounted volser. Will be fixed.

Table 5 Problems solved with DAS 3.10E

Ticket Number	Description
ET85105	"Multiple problem with scr_insert dasadmin command". There is a bug in the DAS insert command handler, which leads to a buffer overflow. In addition, the aci_insert() function has a limitation on buffer size (approx. 1 Kbyte). Operating a large EIF (mailbox) with optical (two-sided) volser this function could encounter problems. Now aci_insert2() function will be introduced (in ACI 3.10E) to fix this issue.
ET84186	"Improper DAS reaction on mount used drive". There is an old check for "mount while cleaning" condition, which is wrong.
	DualDAS issues. There are several issues related with Dual DAS system. There are errors in transferring control information between active and passive DASes
ET60326	"Scratch volumes are possible in more then one pool".
	"scr_set" doesn't create pool information in database. Will be added.
ET60325	"select of scratch volumes doesn't check information in database". Will be fixed in DAS 3.10E.

Corrections in DAS 3.10A

Addressed Problem Logs

Table 6 Problems solved with DAS 3.1A

Ticket Number	Description
- ET51731	A client named ‚AMU' has access to a drive which is allocated from ‚AMUCLIENT'
	Output of ‚dasadmin ld' shows ‚clientname EXUP' as clientname instead of only the clientname
	Scr_set possible for DTF large medium
- ET56697	Trap at das2 if a '-' was used as volserrange in the volser allocation command (allocv)
	Release of LogHandles in ExitList
	Possible to run two aci_function in one process under OS/2.
	Changes in socket termination.
	Wrong error codes in response of eject2 for some volsers. Each volser has now the correct error code.
	No check of media type during the view command
	Wrong response at the command scap with parameter ‚-v' if the volserrange was not found
- ET58331	DAS trap with insert2 if cleanpool is longer than 16 characters
- ET61441	Show command does not show all ranges if the Scap command with parameter ‚-v' removed a volser range which was placed in the middle of the list.

Corrections in DAS 3.02

Generic mount fixes

- DAS does not choose a drive which is in the keep process

- Add action for NTFY 1311

Unload Trap

Sometimes DAS received a Trap during unload.

Switch-Command Processing

Improved Switch handling between DAS and AMU:
DAS reads some more notifications from the AMU in case of an switch.

- AMU_INF_DUAL_DUMMY_1337
- AMU_INF_DUAL_DUMMY_1336

Improved Switching of DAS: Sometimes DAS was still in SwitchMode even though the switch successfully ended.

Improved logging of switch

Some log-messages were added in order to enable a better analysis.

Correction of the killamu command

Fixed wrong behavior of Killamu.
It was the source of an incorrect ABBA/2 command, resulting in wrong behavior

Correction of the cancel command

The Cancel command was fixed. Earlier, it was not able to find the request to cancel.

Addressed Problem Logs

Table 7 Problems which solved with DAS 3.02

Ticket Number	Description
ET36960	Cleaning failed during generic mount
ET30625	System error SYS3175 during unload
ET34707	Problems with generic mounts and cleaning
ET36164	command killamu does not work properly
ET39953	System error SYS3175
ET39997	listd display wrong data
ET40138 ET40182	Switch does not work properly
ET42411	eject2 does not display help informations
ET49149	Wrong positive returncode during eject

Corrections in DAS 3.01

Addressed Problem Logs

Special characters in the hostname **pr 3825**

ENOMATCH error is returned instead of Error ENOVOLUME error when the media type is wrong in the **view** command **pr 3827**

Generic DAS Server Changes

During startup, an error is reported if the environment HOSTNAME environment variable is not defined on OS/2.

Generic ACI Changes

None

Addressed Problem Logs

None

Addressed Change Requests

The following group of functions were added to provide information about a single drive. Refer to the *DAS Interface Guide* for detailed explanations of the functions.

- aci_drivestatus_one()
- aci_drivestatus2_one()
- aci_drivestatus3_one()

The following function was added to provide information about a single drive's serial number. Refer to the *DAS Interface Guide* for detailed explanations of the functions.

- aci_drivestatus4_one()

The following group of functions were added to enable large volser range processing. Refer to the *DAS Interface Guide* for detailed explanations of the functions.

- aci_eject3()
- aci_eject3_complete()

The following function was added to provide information about foreign volsers. Refer to the *DAS Interface Guide* for detailed explanations of the functions.

- aci_list_foreign()

The following function was added to provide information about foreign volsers. Refer to the *DAS Interface Guide* for detailed explanations of the functions.

- aci_eif_conf()

The following function was added to provide information about logical ranges within the Import/Export facility. Refer to the *DAS Interface Guide* for detailed explanations of the functions.

- aci_volser_inventory()

The following function was added to provide enhanced information about request executions. Refer to the *DAS Interface Guide* for detailed explanations of the functions.

- aci_list2()

The following group of functions were added to send email and snmp messages (suppported only by the Scalar DLC software). Refer to the *DAS Interface Guide* for detailed explanations of the functions.

- aci_email()
- aci_snmp()

Known Problems

Table 8 Known Problems in DAS 3.021

Problem Number	Description
	switch: If the communication between DAS of the active and passive AMU is interrupted, the new passive DAS works not correct and returned always with SWITCHINPROG.