DFANaddfds/daafds

intn DFANaddfds(int32 *file_id*, char **description*, int32 *desc_len*)

file_id	IN:	File identifier returned by **Hopen**
description	IN:	Sequence of ASCII characters (may include `NULL` or '`\0`')
desc_len	IN:	Length of the description

Purpose Adds a file description to a file.

Return value Returns `SUCCEED` (or `0`) if successful and `FAIL` (or `-1`) otherwise.

Description These annotations are associated with the file, not with any particular object within the file. The parameter description can contain any sequence of ASCII characters. It does not have to be a string. Use the general purpose routines **Hopen** and **Hclose** to manage file access as the file annotation routines will not open and close HDF files.

Example This example illustrates the use of **DFANaddfid** and **DFANaddfds** to write a file label and description to an HDF file.

```
#include "hdf.h"
#define MAXLABLEN 80
#define MAXDESCLEN 1000
...
int32 file_id;
char label[MAXLABLEN+1], description[MAXDESCLEN+1];

file_id = Hopen("myfile", DFACC_WRITE, 0);

/* store a file label in the file */
strcpy (label, "File #1");
DFANaddfid(file_id, label);

/* store description in file */
DFANaddfds(file_id, description, desc_len(description));

Hclose(file_id);
...
```

FORTRAN

```
integer function daafds(file_id, description, desc_len)

integer file_id, desc_len
character* (*) description
```

DFANaddfid/daafid

intn DFANaddfid(int32 *file_id*, char **label*)

file_id	IN:	The file identifier returned by **Hopen.**
label	IN:	A null-terminated string.

Purpose Writes a file label to a file.

Return value Returns `SUCCEED` (or `0`) if successful and `FAIL` (or `-1`) otherwise.

Description These annotations are associated with the file, not with any particular object within the file. The label must be a single string. Use the general purpose routines **Hopen** and **Hclose** to manage file access because the file annotation routines will not open and close HDF files for you.

In the Fortran-77 version, the string length for the label should be close to the actual expected string length, because in Fortran-77 string lengths generally are assumed to be the declared length of the array that holds the string.

FORTRAN

```
integer function daafid(file_id, label)

integer file_id
character* (*) label
```

DFANclear/daclear

intn DFANclear( )

Purpose Resets all internal library structures and parameters of the DFAN annotiation interface.

Return value Returns `SUCCEED` (or `0`) if successful and `FAIL` (or `-1`) otherwise.

Description When a file is regenerated in a single run by a library routine of another interface (such as **DFSDputdata**), **DFANclear** should be called to reset the interface.

FORTRAN `integer function daclear( )`

DFANgetdesc/dagdesc

intn DFANgetdesc(char **filename*, uint16 *tag*, uint16 *ref*, char **desc_buf*, int32 *buf_len*)

filename	IN:	Name of the file
tag	IN:	Tag of the data object assigned the description
ref	IN:	Reference number of the data object assigned the description
desc_buf	OUT:	Buffer allocated to hold the description
buf_len	IN:	Size of the buffer allocated to hold the description

Purpose Reads the description assigned to the data object with the given tag and reference number.

Return value Returns `SUCCEED` (or `0`) if successful and `FAIL` (or `-1`) otherwise.

Description The parameter *buf_len* specifies the storage space available for the description. The length of *buf_len* must account for the null termination character appended to the description.

FORTRAN

```
integer function dagdesc(filename, tag, ref, desc_buf,
    buf_len)

character* (*) filename, desc_buf
integer tag, ref
integer buf_len
```

DFANgetdesclen/dagdlen

int32 DFANgetdesclen(char **filename*, uint16 tag, uint16 *ref*)

filename	IN:	Name of the file
tag	IN:	Tag of the data object assigned the description
ref	IN:	Reference number of the data object assigned the description

Purpose Retrieves the length of a description of the data object with the given tag and reference number.

Return value Returns the length of a description if successful and `FAIL` (or `-1`) otherwise.

Description This routine should be used to insure that there is enough space allocated for a description before actually reading it.

FORTRAN

```
integer function dagdlen(filename, tag, ref)

character* (*) filename
integer tag, ref
```

DFANgetfds/dagfds

int32 DFANgetfds(int32 *file_id*, char **desc_buf*, int32 *buf_len*, intn *isfirst*)

file_id	IN:	File identifier returned by **Hopen**
desc_buf	OUT:	The buffer allocated to hold the description
buf_len	IN:	Size of the buffer allocated to hold the description
isfirst	IN:	Determines the description to be retrieved

Purpose Reads the next file description.

Return value Returns the length of the file description if successful and `FAIL` (or `-1`) otherwise.

Description If *isfirst* is `0`, **DFANgetfds** gets the next file description from an HDF file. For example, if there are three file descriptions in a file, three successive calls to **DFANgetfds** will get all three descriptions. If *isfirst* is `1`, **DFANgetfds** gets the first file description.

V.alid values for *isfirst* are: `1` to read the first description and `0` to read the next description.

FORTRAN

```
integer function dagfds(file_id, desc_buf, buf_len, isfirst)

integer file_id, buf_len, isfirst
character* (*) desc_buf
```

DFANgetfdslen/dagfdsl

int32 DFANgetfdslen(int32 *file_id*, intn *isfirst*)

file_id	IN:	File identifier returned by **Hopen**
isfirst	IN:	Determines the description the retrieved length information applies to

Purpose Returns the length of a file description.

Return value Returns the length of the file description if successful and `FAIL` (or `-1`) otherwise.

Description When **DFANgetfdslen** is first called for a given file, it returns the length of the first file description. In order to get the lengths of successive file descriptions, you must call **DFANgetfds** between calls to **DFANgetfdslen**. Successive calls to **DFANgetfdslen** without calling **DFANgetfds** between them will return the length of the same file description.

V.alid values for *isfirst* are: `1` to read the length of the first description and `0` to read the length of the next description.

FORTRAN

```
integer function dagfdsl(file_id, isfirst)

integer file_id, isfirst
```

DFANgetfid/dagfid

int32 DFANgetfid(int32 *file_id*, char **desc_buf,* int32 *buf_len*, intn *isfirst*)

file_id	IN:	File identifier returned by **Hopen**
label_buf	OUT:	The buffer allocated to hold the label
buf_len	IN:	Size of the buffer allocated to hold the label
isfirst	IN:	Determines the file label to be retrieved

Purpose: Reads a file label from a file.

Return value: Returns the length of the file description if successful and `FAIL` (or `-1`) otherwise.

Description: If *isfirst* is `0`, **DFANgetfid** gets the next file label from the file. If *isfirst* is `1`, **DFANgetfid** gets the first file label in the file. If *buf_len* is not large enough, the label is truncated to *buf_len*`-1` characters in the buffer *label_buf*.

Valid values of *isfirst* are: `1` to read the first label, `0` to read the next label

FORTRAN

```
integer function dagfid(file_id, label_buf, buf_len, isfirst)

integer file_id, buf_len, isfirst
character* (*) label_buf
```

DFANgetfidlen/dagfidl

int32 DFANgetfidlen(int32 *file_id*, intn *isfirst*)

file_id	IN:	File identifier returned by **Hopen**
isfirst	IN:	Determines the file label the retrieved length information applies to

Purpose Returns the length of a file label.

Return value Returns the length of the file label if successful and `FAIL` (or `-1`) otherwise.

Description When **DFANgetfidlen** is first called for a given file, it returns the length of the first file label. In order to retrieve the lengths of successive file labels, **DFANgetfid** must be called between calls to **DFANgetfidlen**. Otherwise, successive calls to **DFANgetfidlen** will return the length of the same file label.

Valid values of *isfirst* are: `1` to read the first label, and `0` to read the next label.

FORTRAN

```
integer function dagfidl(file_id, isfirst)

integer file_id, isfirst
```

DFANgetlabel/daglab

intn DFANgetlabel(char **filename*, uint16 *tag*, uint16 *ref*, char **label_buf*, int32 *buf_len*)

filename	IN:	Name of the HDF file
tag	IN:	Tag of the data object assigned the label
ref	IN:	Reference number of the data object assigned the label
label_buf	OUT:	Buffer for the label
buf_len	IN:	Size of the buffer allocated for the label

Purpose Reads the label assigned to the data object identified by the given tag and reference number.

Return value Returns `SUCCEED` (or `0`) if successful and `FAIL` (or `-1`) otherwise.

Description The parameter *buf_len* specifies the storage space available for the label. The length of *buf_len* must account for the null termination character appended to the annotation.

FORTRAN

```
integer function daglab(filename, tag, ref, label_buf,
                        buf_len)

character* (*) filename, label_buf
integer tag, ref, buf_len
```

DFANgetlablen/dagllen

int32 DFANgetlablen(char *filename, uint16 tag, uint16 ref)

filename	IN:	Name of the file
tag	IN:	Tag of the data object assigned the label
ref	IN:	Reference number the data object assigned the label

Purpose Returns the length of a label assigned to the object with a given tag and reference number.

Return value Returns the length of the label if successful and `FAIL` (or `-1`) otherwise.

Description This routine should be used to insure that there is enough space allocated for a label before actually reading it.

FORTRAN

```
integer function dagllen(filename, tag, ref)

character* (*) filename
integer tag, ref
```

DFANlablist/dallist

int DFANlablist(char **filename*, uint16 *tag*, unit16 *ref_list*[], char **label_list*, int *list_len*, intn *label_len*, intn *start_pos*)

filename	IN:	Name of the file
tag	IN:	Tag to be queried
ref_list	OUT:	Buffer for the returned reference numbers
label_list	OUT:	Buffer for the returned labels
list_len	IN:	Size of the reference number list and the label list
label_len	IN:	Maximum length allowed for a label
start_pos	IN:	Starting position of the search

Purpose Returns a list of all reference numbers and labels (if labels exist) for a given tag.

Return value Returns the number of reference numbers found if successful and `FAIL` (or `-1`) otherwise.

Description Entries are returned from the *start_pos* entry up to the *list_len* entry.

The *list_len* determines the number of available entries in the reference number and label lists, *label_len* is the maximum length allowed for a label, and *start_pos* tells which label to start reading for the given tag. (If *start_pos* is 1, for instance, all labels will be read; if *start_pos* is 4, all but the first 3 labels will be read.) The *ref_list* contains a list of reference numbers for all objects with a given tag. The *label_list* contains a corresponding list of labels, if any. If there is no label stored for a given object, the corresponding entry in *label_list* is an empty string.

Taken together, the *ref_list* and *label_list* constitute a directory of all objects and their labels (where they exist) for a given tag. The *label_list* parameter can display all of the labels for a given tag. Or it can be searched to find the reference number of a data object with a certain label. Once the reference number for a given label is found, the corresponding data object can be accessed by invoking other HDF routines. Therefore, this routine provides a mechanism for the direct access to data objects in HDF files.

FORTRAN

```
integer function dallist(filename, tag, ref_list, label_list,
    list_len, label_len, start_pos)

character* (*) filename, label_list
integer ref_list(*)
integer list_len, label_len, start_pos
```

DFANlastref/dalref

uint16 DFANlastref( )

Purpose	Returns the reference number of the annotation last written or read.
Return value	Returns the reference number if successful and `FAIL` (or `-1`) otherwise.

FORTRAN	`integer function dalref( )`

DFANputdesc/dapdesc

int DFANputdesc(char **filename*, uint16 *tag*, uint16 *ref*, char **description*, int32 *desc_len*)

filename	IN:	Name of the file
tag	IN:	Tag of the data object to be assigned the description
ref	IN:	Reference number the data object to be assigned the description
description	IN:	Sequence of ASCII characters (may include `NULL` or '`\0`')
desc_len	IN:	Length of the description

Purpose Writes a description for the data object with the given tag and reference number.

Return value Returns `SUCCEED` (or `0`) if successful and `FAIL` (or `-1`) otherwise.

Description The parameter description can contain any sequence of ASCII characters; it does not have to be a string. If **DFANputdesc** is called more than once for the same tag/reference number pair, only the last description is stored in the file.

FORTRAN

```
integer function dapdesc(filename, tag, ref, description,
                         desc_len)

character* (*) filename, description
integer tag, ref, desc_len
```

DFANputlabel/daplab

intn DFANputlabel(char **filename*, uint16 *tag*, uint16 *ref*, char **label*)

filename	IN:	Name of the file
tag	IN:	Tag of the data object to be assigned the label
ref	IN:	Reference number the data object to be assigned the label
label	IN:	Null-terminated label string

Purpose Assigns a label to the data object with the given tag/reference number pair.

Return value Returns `SUCCEED` (or `0`) if successful and `FAIL` (or `-1`) otherwise.

FORTRAN

```
integer function daplab(filename, tag, ref, label)

character* (*) filename, label
integer tag, ref
```