Glossary

A

annotation: a label or description specifically added to an HDF file to identify or describe a file or any data element(s) contained therein.

annotation model: a predefined data structure used to attach text strings to any HDF file or data element.

application interface: a collection of functions for reading, writing, and organizing the data elements associated with one data model.

attribute record: any one of six optional data elements describing a particular characteristic of a scientific data set.

B

bit-map: any image whose colors or grayscale intensities are stored as pixel values.

C

color component: one of three 8-bit values that determine the amount of red, green, or blue used to create a particular color.

color look-up table: the means by which each pixel value in an 8-bit image is assigned one of the 256 colors appearing in the palette.

compression utility: either of the two command line utilities capable of reducing the size of an HDF file.

conversion utility: any one of several command line utilities capable of converting data between HDF and raw data format.

D

data element: a data storage unit used by HDF to organize different types of data stored in the same file.

data model: a predefined data structure comprised of a group of related HDF data elements.

default settings: assumptions made by HDF in order to reduce the number of attributes that must be specified before performing a particular operation.

description: an annotation containing one or more text strings.

DF24: the interface prefix for the functions in the 24-bit raster interface.

DFAN: the interface prefix for the functions in the annotation interface.

DFP: the interface prefix for the functions in the palette interface.

DFR8: the interface prefix for the functions in the 8-bit raster interface.

DFSD: the interface prefix for the functions in the scientific data interface.

E

8-bit raster image: a bit-mapped image whose rows are painted from left to right using pixel values represented by a single 8-bit number.

8-bit raster image set: a group of data elements containing an 8-bit raster image, its dimension record and an optional palette.

8-bit raster model: a predefined data structure used by HDF to store an 8-bit raster image, its dimension record, and a palette in the same file.

F

ftp server: a NCSA Internet site (ftp.ncsa.uiuc.edu) that provides access to the HDF source code and documentation.

G

group element: a data element containing a list of related data elements that taken together form an HDF data set, such as a raster image set.

H

HDF data set: any predefined group of HDF data elements supported by an application interface.

HDF source distribution: any official release by NCSA of HDF source code, utilities, test routines and documentation.

HDF function call: a method of accessing a software routine contained in the HDF library by including the name of the function in a separate program.

HDF library: a collection of frequently used HDF functions that can be linked into other software application via HDF function calls.

I

inquiry utility: any one of three utilities capable of identifying, and in some cases altering, the contents of an HDF file.

interface prefix: the first few characters in each function name that identify the interface to which the function belongs.

L

label: an annotation containing one text string.

low level interface: a collection of HDF function calls that perform basic file I/O, error handling, memory management, and physical storage.

P

palette: the 256 colors used to display an 8-bit image.

palette model: a predefined data structure used by HDF to store palettes.

pixel interlacing: an interlacing scheme whereby the three color components for each pixel in a 24-bit image are grouped together and stored adjacent to one another in a file.

R

raster image: any bit-mapped image whose rows are painted from left to right, top to bottom one pixel at a time.

reference number: a number assigned to every element in order to distinguish it from other data elements of the same type.

S

scan-line interlacing: an interlacing scheme whereby the color components for each line in a 24-bit image are grouped together and stored adjacent to one another in a file.

scan-plane interlacing: an interlacing scheme whereby the color components for each color plane in a 24-bit image are grouped together and stored adjacent to one another in a file.

scientific data model: a predefined data structure used by HDF to store a multi-dimensional array, its dimension record, and its attributes in the same file.

scientific data set: a group of data elements containing an array of scientific data, its dimension record, and other optional attribute records.

T

tag: any one of a set of predefined numbers used to define the type of data stored in a data element.

24-bit raster image: any bit-mapped image whose rows are painted from left to right top to bottom using pixel values represented by three 8-bit numbers.

24-bit raster image set: a group of data elements containing a 24-bit raster image and its dimension record.

24-bit raster model: a predefined data structure used by HDf to store a 24-bit raster image and its dimension record in the same file.

V

Vdata class: a label used to describe the type of records stored in a table**.**

Vdata field name: a name assigned to a field in a Vdata record.

Vdata name: a label used to describe a Vdata table.

Vdata model: a framework for storing customized tables in HDF files.

Vdata record: a collection of fields whose number types may differ from one another.

version number: a method of labelling different versions of the HDF library which takes the form of X.YvZ where X is the major release number, Y is the minor release number, and Z is the revision number.