
Subject: HDF files and memory leak

Posted by [Jacques](#) on Fri, 10 Aug 2001 11:08:01 GMT

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Hi all

I am trying to find out how to stop a memory leak when reading HDF files.

Here is a chunk of the code where I restore a template, and free up the memory that it uses, and all is fine.

IDL Version 5.4 (linux x86). (c) 2000, Research Systems, Inc.

```
IDL> help, /heap
```

```
Heap Variables:
```

```
# Pointer: 0
```

```
# Object : 0
```

```
IDL> file = 'hdfaa.000'
```

```
IDL> restore, 'energy.template'
```

```
IDL> help, /heap
```

```
Heap Variables:
```

```
# Pointer: 55
```

```
# Object : 0
```

```
<PtrHeapVar1>  STRUCT  = -> <Anonymous> Array[1]
```

```
<PtrHeapVar2>  LONG    =      63
```

```
....
```

```
IDL> ptr_free, template.sd.sds.attributes
```

```
IDL> ptr_free, template.sd.sds.dims
```

```
IDL> ptr_free, template.sd.sds.dim_info
```

```
IDL> help, /heap
```

```
Heap Variables:
```

```
# Pointer: 0
```

```
# Object : 0
```

```
IDL>
```

However, when I actually read data from an HDF file...

IDL Version 5.4 (linux x86). (c) 2000, Research Systems, Inc.

```
IDL> help, /heap
```

```
Heap Variables:
```

```
# Pointer: 0
```

```
# Object : 0
```

```

IDL> file = 'hdfaa.000'
IDL> restore, 'energy.template'
IDL> help, /heap
Heap Variables:
    # Pointer: 55
    # Object : 0

<PtrHeapVar1>  STRUCT  = -> <Anonymous> Array[1]
<PtrHeapVar2>  LONG    =      63

...

IDL> temp = hdf_read(file, template=template)
% Restored file: HDF_READ.
% Restored file: HDF_MAP.
% Compiled module: REVERSE.
% Loaded DLM: HDF.
IDL> help, /heap
Heap Variables:
    # Pointer: 165
    # Object : 0

<PtrHeapVar1>  STRUCT  = -> <Anonymous> Array[1]
<PtrHeapVar2>  LONG    =      63

...

IDL> ptr_free, template.sd.sds.attributes
IDL> ptr_free, template.sd.sds.dims
IDL> ptr_free, template.sd.sds.dim_info
IDL> help, /heap
Heap Variables:
    # Pointer: 110
    # Object : 0

<PtrHeapVar56> STRUCT  = -> <Anonymous> Array[1]
<PtrHeapVar57> LONG    =      63

...

IDL> help, temp, /structure
** Structure <81ec2fc>, 4 tags, length=1000212, refs=1:
  FILENAME    STRING  'hdfaa.000'
  VERSION     STRING  '1.1'
  DATE        STRING  'Fri Jul 27 09:42:22 2001'
  _HDFAA_SD_19
                FLOAT  = Array[63, 63, 63]
-----

```

So hdf_read takes up a chunk of the heap, and there are no pointers in the variable "temp".

The HDF_BROWSER online help states:

"The user is required to clean up the heap variable references when done with them."

So I try to run

```
IDL> heap_gc
```

```
IDL> help, /heap
```

Heap Variables:

```
# Pointer: 0
```

```
# Object : 0
```

So that seems fine, but the problem is that the memory is not freed up and after a couple of hours (and reading hundreds of HDF files) the memory usage (as reported by top) is up to 220MB. Nothing can free up the memory (I've tried heap_gc and .full_reset_session).

Can anyone tell me what I need to do to free up this memory?

Thanks,
Jacques
