

Topic : Using Cache-A Query command line tool

Reference Release: v2.1.13

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Summary:

Basic Cache-A software includes an excellent database tracking system to monitor and manage all your tapes and files, but does not include facilities for exporting this database. As of release v2.1.13 we include a command line tool to enable exporting all or portions of this database. If you are on an earlier release, please contact Cache-A support to install it on your system.

The following is a brief primer on the Cache-A Query program, called 'caq' for short. Its function is to query the catalog and return output in comma delimited (.csv) format.

Getting Started with caq:

In order to use this program, we need command line access to this unit. You can access the unit in one of 2 ways, remote in via ssh (from Mac/Linux/Unix command line terminal, or PuTTY for Windows), or connect a monitor/mouse/keyboard directly to the unit.

Detailed instructions on how to do this can be found in our Command Line Tech Brief, posted at: <http://cache-a.com/ftpcommon/CATechBrief-CommandLine.pdf>

Note the following convention used in this document:

Anytime you see a # at the beginning of the line, it means this is a command entered on the connected Cache-A system. You'll actually see a different prompt appropriate to your specific login, similar to the following:

```
[root@archive62 ~]#
```

Instead of archive62, it will be the hostname of whatever Cache-A unit you have ssh'd to (typically "archiveXX" where XX is the last two digits of your serial number by default). At the end of the expected output, you will see another # on an empty line.

Once you're connected via ssh and have access to the command line, running the caq command without anything else displays the *usage help text* as shown below:

```
# caq

usage: /usr/local/bin/caq -t <tape name or S/N> OPTIONS

OPTIONS:
  -c      Show a list of all tapes in the catalog. Cancels all other
options.
  -t      Serial number (or name, use quotes if there's spaces) of
the tape you want queried. Typing 'all' (without quotes) will query
every tape (there may be a LOT of output)
  -d      Show only directories in the tape, no files. Cancels file
specific options.
  -l $i   Show only files less than $i in bytes
  -g $i   Show only files greater than $i in bytes
  -h      Hide hidden files and directories (files and directories
that begin with . and :)

#
```

This usage help text is an outline of the basic capabilities of this program and the options (also called switches) available for controlling the output. Below are examples as to what each of these switches will do.

Listing Tapes in the Catalog:

The first example is a simple catalog listing to show all tapes the system has seen: run caq with the -c option.

```
# caq -c

I99P62H540
Test Tape 6
08N0116327
Digitron
Video_Content_Master
A9AJC5ALX2
04NI106854
1070428021_2
1070428021_3
1070428080
0984300667
3A Series Tape
1070428021_1
1070428069
2070428021
080I107084
A98VC688FP
AA46C9AHC
AA46C9AC7K
1070428080_3
```

```
1070428093
1100924134_3
090N405005
0872113173
1100924141
1100924134_1
AA46C9AHU8
AC41AHJGNX
AA46C9226Y_3
AA46C92GA9
sfasdfa
AA46C9226Y
5110122008
AA8TE46G7X
A99MC54YPF
Blank Tape
LTFS_Demo_2
Eltee-effess
A9AJC8JCUC
AA2NC8ACLE
080J100314
J122AGWW55
AC07E51V87
AA0TC8RDPV
```

```
#
```

The `-c` option should be used alone; any other options included will be ignored. All `-c` does is give you a list of every tape in your catalog. This listing shows the Volume Name for each tape, which by default is the tape's unique media ID (serial number) but if a tape has been renamed, that name will appear instead of the serial number.

Listing the Contents of a Tape:

Typically, `caq` will be used with the `-t` option in order to show the files on a particular tape. The `-t` option selects a tape by Volume Name for its file listing query. Thus if a tape is renamed, use its name not the raw serial number. In the example list above, "Blank Tape" has been renamed, but "08NO116327" has not. If there are any spaces or other unusual characters in your tape name, always place double quotes around the name as shown in the following example:

```
# caq -t "Blank Tape"

Blank Tape -

File Name,Directory Name,Size of File,Time Last Modified

#
```

In this preceding example, our "Blank Tape" is of course blank and lists no files. Note that the output of `caq` always includes the tape name and a header showing which fields would be included in the comma separated values that normally appear below that header.

A tape with content example would be a query of 08NO116327 - this has a lot of data on it:

```
# caq -t 08NO116327

08NO116327 -

File Name,Directory Name,Size of File,Time Last Modified

nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
0005SL02.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
0005SL02.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
:2e_0005SL01.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
:2e_0005SL01.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
0005SL01.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
0005SL01.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
:2e_0005SL00.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
0003UB00.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO,1442400,2009-05-11 20:07:00
0003UB00.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:43:00
:2e_0003UB00.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:43:00
:2e_0003UB00.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO,4096,2010-04-11 17:43:00
:2e_0003UB00.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:43:00
0003UB01.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:43:00
.Parent,idityrod_race_75GB/Caporale Millenium
D3R1/CONTENTS/VIDEO/.AppleDouble,741,2010-04-11 17:57:00
000624.MXF,idityrod_race_75GB/Caporale Millenium
D3R1/CONTENTS/VIDEO/.AppleDouble,741,2010-04-11 17:55:00
000270.MXF,idityrod_race_75GB/Caporale Millenium
D3R1/CONTENTS/VIDEO/.AppleDouble,741,2010-04-11 17:55:00
:2e_000270.MXF,idityrod_race_75GB/Caporale Millenium
D3R1/CONTENTS/VIDEO/.AppleDouble,741,2010-04-11 17:55:00
:2e_0010Q1.MXF,idityrod_race_75GB/Caporale Millenium
D3R1/CONTENTS/VIDEO/.AppleDouble,741,2010-04-11 17:56:00

...(output omitted)...

#
```

In order to conserve space, most of the output listing this tape's contents has been omitted. If we were to show all the data on this tape, it would be very long indeed.

Note that this output may be a bit confusing to read at first, but each field of data is separated by commas and contains the following information (in order):

File Name,Directory Name,Size of File,Time Last Modified

Saving and Exporting caq Output:

Since this is comma-separated data, you can repurpose this information by exporting it as a .csv file. In order to make the Cache-A save this output as a file (as opposed to the wall of text seen in the previous example) we use the Linux convention of using a greater-than symbol in order to “redirect” the output to a file:

```
# caq -t 08N0116327 > /media/vtape/08N0116327.csv  
#
```

In this case the output does not appear on your screen, but rather is redirected to a file. Because we specified “/media/vtape/” this file will be created in the root of your Cache-A Share so you can easily move it to a client computer. Because we appended “08N0116327.csv” that will be the filename that is created.

Thus for any of the commands listed here, you can always make the output be a file in the root of the Cache-A Share by adding the following to the end of any command:

```
> /media/vtape/file.csv
```

Making sure it goes to /media/vtape makes it easy to access the output file on the Cache-A Share. In place of the word “file” give the output a meaningful name, which typically would be the name of the volume. Appending “.csv” to the end of the filename assures that your client computer will recognize this as a comma-separated-value text file and can work with programs that recognize this file type (such as Excel).

Refining the Output from caq:

This section reviews the other optional settings available in caq, as shown in the beginning in the help output.

The next option we'll explore is the -h option. This omits any hidden files or directories from the search, and can be added with any other option (except -c as noted above). Hidden files are those that start with a period or colon and typically clutter up listings from Macintosh systems, so eliminating them from the listing is what many users will want to see.

```
#caq -t 08N0116327 -h  
  
08N0116327 - Hidden files are not being shown.  
  
File Name,Directory Name,Size of File,Time Last Modified  
  
0004FJ03.MXF, iditirod_race_75GB/aa nome01/CONTENTS/AUDIO,1394352,2009-  
05-11 20:12:00
```

0004FJ02.MXF, iditirod_race_75GB/aa nome01/CONTENTS/AUDIO,1394352,2009-05-11 20:12:00
0004FJ01.MXF, iditirod_race_75GB/aa nome01/CONTENTS/AUDIO,1394352,2009-05-11 20:12:00
0003WL03.MXF, iditirod_race_75GB/aa nome01/CONTENTS/AUDIO,4357312,2009-05-11 20:12:00
0003WL02.MXF, iditirod_race_75GB/aa nome01/CONTENTS/AUDIO,4357312,2009-05-11 20:12:00
0003WL01.MXF, iditirod_race_75GB/aa nome01/CONTENTS/AUDIO,4357312,2009-05-11 20:12:00
0003WL00.MXF, iditirod_race_75GB/aa nome01/CONTENTS/AUDIO,4357312,2009-05-11 20:12:00
0002Q903.MXF, iditirod_race_75GB/aa nome01/CONTENTS/AUDIO,817776,2009-05-11 20:12:00
0001TX02.MXF, iditirod_race_75GB/aa nome01/CONTENTS/AUDIO,1170128,2009-05-11 20:12:00
0019X402.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,1906864,2009-05-11 20:07:00
0019X403.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,1906864,2009-05-11 20:07:00
0020VK00.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,929888,2009-05-11 20:07:00
0020VK01.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,929888,2009-05-11 20:07:00
0020VK02.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,929888,2009-05-11 20:07:00
0020VK03.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,929888,2009-05-11 20:07:00
00225I00.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,3412368,2009-05-11 20:07:00
00225I01.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,3412368,2009-05-11 20:07:00
00225I02.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,3412368,2009-05-11 20:07:00
00225I03.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,3412368,2009-05-11 20:07:00
0023YY00.MXF, iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO,5622576,2009-05-11 20:07:00
00996102.MXF, iditirod_race_75GB/JoeCarpenter02/CONTENTS/AUDIO,5174128,2009-05-11 21:55:00
00996101.MXF, iditirod_race_75GB/JoeCarpenter02/CONTENTS/AUDIO,5174128,2009-05-11 21:55:00
009961.MXF, iditirod_race_75GB/JoeCarpenter02/CONTENTS/VIDEO,308192992,2009-05-11 21:56:00

...(output omitted)...

#

The -d option only lists directories (folders). The -h option added to it omits hidden folders. The fields for -d are a lot different. Because they take up no space on the tape, the file size isn't listed, and neither is the file name since it's just a directory. That gives us only

```
Directory,Time Last Modified
```

as the used fields:

```
# caq -t 08N0116327 -d -h
```

```
08N0116327 - All directories on tape - Hidden files are not being shown.
```

```
Directory, Time Last Modified
```

```
iditirod_race_75GB/,2010-04-11 17:43:00
iditirod_race_75GB/4th street time lapse/,2010-04-11 17:43:00
iditirod_race_75GB/4th street time lapse/CONTENTS/,2010-04-11 17:43:00
iditirod_race_75GB/4th street time lapse/CONTENTS/AUDIO/,2009-05-11
20:07:00
iditirod_race_75GB/4th street time lapse/CONTENTS/CLIP/,2009-05-11
20:07:00
iditirod_race_75GB/4th street time lapse/CONTENTS/ICON/,2009-05-11
20:07:00
iditirod_race_75GB/4th street time lapse/CONTENTS/PROXY/,2009-05-11
20:07:00
iditirod_race_75GB/4th street time lapse/CONTENTS/VIDEO/,2010-04-11
17:43:00
iditirod_race_75GB/4th street time lapse/CONTENTS/VOICE/,2009-05-11
20:07:00
iditirod_race_75GB/aa nome finish/,2010-04-11 17:43:00
iditirod_race_75GB/aa nome finish/CONTENTS/,2010-04-11 17:43:00
iditirod_race_75GB/aa nome finish/CONTENTS/AUDIO/,2009-05-11 20:07:00
iditirod_race_75GB/aa nome finish/CONTENTS/CLIP/,2009-05-11 20:07:00
iditirod_race_75GB/aa nome finish/CONTENTS/ICON/,2009-05-11 20:07:00
iditirod_race_75GB/aa nome finish/CONTENTS/PROXY/,2009-05-11 20:07:00
iditirod_race_75GB/aa nome finish/CONTENTS/VIDEO/,2010-04-11 17:44:00
iditirod_race_75GB/aa nome finish/CONTENTS/VOICE/,2009-05-11 20:12:00
iditirod_race_75GB/aa nome01/,2010-04-11 17:45:00
iditirod_race_75GB/aa nome01/CONTENTS/,2010-04-11 17:46:00
iditirod_race_75GB/Jan Chas Interview/CONTENTS/,2010-04-11 18:05:00
iditirod_race_75GB/Jan Chas Interview/CONTENTS/AUDIO/,2009-05-11
21:41:00
iditirod_race_75GB/Jan Chas Interview/CONTENTS/CLIP/,2009-05-11
21:41:00
iditirod_race_75GB/Jan Chas Interview/CONTENTS/ICON/,2009-05-11
21:41:00
iditirod_race_75GB/Jan Chas Interview/CONTENTS/PROXY/,2009-05-11
21:41:00
```

```
...(output omitted)...
```

```
#
```

The -g and -l options are used to pull only files that are greater than (with -g) or less than (with -l) X number of bytes. It is frequently helpful to not list very small files when there are a lot of them such as in audio editing environments. You may alternately want to focus only on small files and omit listings of very large files or you may only want to list files within a particular range of sizes. These -g and -l options give you complete control over such choices.

The following example shows files that are greater than 1,000 bytes and less than 1,000,000 bytes. You must make sure that -g is always less than -l if you're using both in order to give it a valid range, or it will throw an error.

```
# caq -t 08N0116327 -h -g 1000 -l 1000000

08N0116327 - Hidden files are not being shown.  Files smaller than
1000000 shown.
  Files larger than 1000 shown.

File Name,Directory Name,Size of File,Time Last Modified

0002Q903.MXF,idityrod_race_75GB/aa nome01/CONTENTS/AUDIO,817776,2009-
05-11 20:12:00
0020VK00.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO,929888,2009-05-11 20:07:00
0020VK01.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO,929888,2009-05-11 20:07:00
0020VK02.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO,929888,2009-05-11 20:07:00
0020VK03.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO,929888,2009-05-11 20:07:00
0028EL00.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO,161120,2009-05-11 20:07:00
0028EL01.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO,161120,2009-05-11 20:07:00
0028EL02.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO,161120,2009-05-11 20:07:00
0028EL03.MXF,idityrod_race_75GB/aa nome
finish/CONTENTS/AUDIO,161120,2009-05-11 20:07:00

#
```

Listing Every File in the Entire Catalog:

If instead of a tape name, you put the word “all” in (without quotes) after a -t, it will query every tape in your catalog. Be careful with this one, it can generate a lot of output! It will take considerably longer to run as well.

In our environment, running a “caq -t all > /media/vtape/allfiles.csv” on the test system used in these examples, created a file of approximately 7.1 MB, this would typically be a LOT larger on most of our customer’s systems.

```

# caq -t all

I99P62H540 -

File Name,Directory Name,Size of File,Time Last Modified
Trash,,0,2010-11-22 13:16:32

08N0116327 -

File Name,Directory Name,Size of File,Time Last Modified

:2e_0005SL02.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
:2e_0005SL02.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
0005SL02.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
0005SL02.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
:2e_0005SL01.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
:2e_0005SL01.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
0005SL01.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
0005SL01.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00
:2e_0005SL00.MXF,idityrod_race_75GB/aa
nome01/CONTENTS/AUDIO/.AppleDouble,741,2010-04-11 17:45:00

etc...

#

```

Notes:

If you have multiple tapes with the same Volume Name, a query of that name will display only the first occurrence of it in the database. Assure each tape has a unique name in order to prevent ambiguous listings.

If you actually have a tape named “all” querying this tape will not work. It will instead query all files on all tapes. The best workaround for this at present is to rename the tape “All” or similar, as it is case-sensitive.