

# CyberSoft White Papers

## The Year 2000 and Beyond

### CyberSoft Products and the Year 2000 Controversy

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## Introduction:

Much concern has been expressed about the pending year 2000 and how various programs and databases will be affected when this day arrives. This paper deals with how this problem will effect CyberSoft products, specifically, VFind<sup>tm</sup>, UAD<sup>tm</sup>; CIT<sup>tm</sup>; and THD<sup>tm</sup>. The primary concern in these products is the security package which uses the system date along with imbedded licensing information to determine if a given license is valid. This issue along with many other issues not germane to CyberSoft programs are addressed very well by Sun Microsystems on their web site, <http://www.sun.com/y2000> and in particular the document, [http://www.sun.com/solaris/Interactive/interactive\\_y2000.html](http://www.sun.com/solaris/Interactive/interactive_y2000.html) .

## License and Security Issue:

CyberSoft's products all use the same licensing and security systems. Currently this system makes calls to C library functions "time" and "local time" to obtain the date and time. The function "time" returns the number of seconds since January 1, 1970 in a 32 bit integer variable. The function "localtime" converts this value into a structure named "tm". The "tm" structure contains the year as "tm\_year"+1900, month as, "tm\_mon"+1, day of the month as "tm\_mday"(01-31), and the day of the week as "tm\_wday"(Sunday = 0). Due to the 32 bit variable "time", the last valid date obtainable is January 19, 2038, at 03:14:07.

The "ctime" function is used by THD and CIT to time stamp various files and reports that they create. "ctime" uses the returned value of "time" and converts it into a 26 character date-time string. "ctime" returning a pointer to the string it creates.

This limitation (32 bit integer) is due to software rather than hardware limitations on most platforms. The standard "C" calls, as implemented, only allow for 32 bits. This allows valid dates through the critical "Year 2000" date, and into the next century. All CyberSoft products will continue to function correctly at the year 2000. As noted, the year returned is the number of years since 1900, after conversion by "localtime". When the year returned reaches 138, the month 1, and the day 18, the value over-flows, becoming a negative number. This causes the year to drop to some value less than 97. This will vary somewhat depending on the platform and compiler. As defined by "C Language Standards", (refer to above quoted Sun Microsystems<sup>TM</sup>; document), "time\_t" is not defined for negative values and results may be unpredictable. Within CyberSoft products, if the year returned is less than 97, the year, as a flag, is set to 2139 and all permanent licenses are, allowed to continue, but demonstration licenses are not. Additionally, when this flag is set CIT and THD will use a time stamp with year "2139" in place of the invalid date.

As mentioned in the Sun Microsystems document, a change in the "C" software libraries, changing "time\_t" to return 64 bits will allow dates well beyond 2038. It is desired that this fix or some implementation should take place before the year 2038.

## Conclusions:

Currently all CyberSoft products released since May 1997 are "Year 2000" compliant and will function correctly well into the 21st century, (I.E., the Year 2038). The products use the full 4 digit year value internally to properly date stamp files and verify licenses.

Encoded activation keys (called Type 8 License keys) carry a 2 digit year which must be 97 or greater. The internal logic adds 1900 for values greater than 96 and 2000 for values less than 97. This algorithm will remain fully functional through the year 2096.

Products issued since June 1999 (Product VSTK150 and higher), use a new Type 9 license key. The encoded activation keys carry a 4 digit year. The internal logic then is able to compare this value with the actual year

returned by the system (as explained above) to verify a license is valid or not. This algorithm will remain fully functional through the next century.

In effect, CyberSoft products released after May 1997 will function beyond the year 2000 but may not function starting in the year 2038. Products released prior to May 1997 were not tested. Customers who are concerned about year 2000 functionality may upgrade to the current release for a reasonable fee.

The following test was run to verify "Y2K" compliance with the security package that is imbedded in Cybersoft's various products. The security package is the same for all the company's products so the "VFind" virus detection product was selected for this test.

The test was run on an Intel platform with Sun's Solaris 2.6 Unix operating system installed.

When the script starts, a license file was displayed with seven entries with expiration dates set to known critical periods in year 2000 and beyond. Then each pass through VFind was made after moving the date forward. As a result it can be seen that when a particular license key fails, the next valid license in the license file is selected. The last license key was set to 12/31/2037. The test terminates using this last key. No later dates were tested as most current dates returned by the system may not be valid after 01/02/2038 or 03/01/2038, depending on the operating system and the hardware platform. (True, there are fixes available from some vendors.) This test clearly shows that our product is "Y2K" compliant.

Script started on Sun Oct 10 20:36:31 1999

```
# cat LICENSE
```

```
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022000>  
9bxxxxxxxxxxxxx73  
40xxxxxxxxxxxxae  
c2xxxxxxxxxxxxxxxxxxxx57  
57xxx18  
Serial No. 4, License Ver. 9
```

```
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01312000>  
b8xxxxxxxxxxxx49  
53xxxxxxxxxxxx24  
cbxxxxxxxxxxxxxxxxxxxx3b  
3bxxx3b  
Serial No. 5, License Ver. 9
```

```
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02012000>  
43xxxxxxxxxxxxe1  
73xxxxxxxxxxxxb1  
7exxxxxxxxxxxxxxxxxxxxx16  
16xxx93  
Serial No. 11, License Ver. 9
```

```
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02292000>  
54xxxxxxxxxxxxf5  
05xxxxxxxxxxxxb7  
0fxxxxxxxxxxxxxxxxxxxxee  
eexxx28  
Serial No. 7, License Ver. 9
```

```
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:03012000>  
e3xxxxxxxxxxxxc1  
afxxxxxxxxxxxx5e  
dcxxxxxxxxxxxxxxxxxxxxc3  
ddxxx0  
Serial No. 8, License Ver. 9
```

```
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:09292000>  
b4xxxxxxxxxxxx9b  
e2xxxxxxxxxxxxa1  
a3xxxxxxxxxxxxxxxxxxxxaf  
afxxfb  
Serial No. 9, License Ver. 9
```

```
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022023>  
baxxxxxxxxxxxx98c
```

c9xxxxxxxxxxx0f  
acxxxxxxxxxxxxxxxxxxxx2f  
2fxxxxc0  
Serial No. 10, License Ver. 9

# date  
Sun Oct 10 20:36:50 EDT 1999

# ./vfind  
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)  
##==> Hostname is ethel with length of 5  
##==> System Date -- Year: 1999 Month: 10 Day: 10 20:37:00

##==> SECURITY: FILE ./LICENSE .....

##==> SECURITY: License file found and opened

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01022000>

Enter the name of the file to be checked: -end

##==> \*\*\*\*\*

##==> \*\* Normal exit from interactive mode. \*\*

##==> \*\*\*\*\*

##==> Number of files read: 0

##==> No apparent virus infections found.

##==> Vfind program termination

# date -u 010300362000  
Mon Jan 3 00:36:00 GMT 2000  
# date  
Sun Jan 2 19:36:05 EST 2000

# ./vfind  
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)  
##==> Hostname is ethel with length of 5  
##==> System Date -- Year: 2000 Month: 1 Day: 2 19:36:17

##==> SECURITY: FILE ./LICENSE .....

##==> SECURITY: License file found and opened

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01022000>

Enter the name of the file to be checked: -end

##==> \*\*\*\*\*

##==> \*\* Normal exit from interactive mode. \*\*

##==> \*\*\*\*\*

##==> Number of files read: 0

##==> No apparent virus infections found.

##==> Vfind program termination

# date -u 010400352000  
Tue Jan 4 00:35:00 GMT 2000  
# date  
Mon Jan 3 19:35:04 EST 2000

# ./vfind  
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)  
##==> Hostname is ethel with length of 5  
##==> System Date -- Year: 2000 Month: 1 Day: 3 19:35:11

##==> SECURITY: FILE ./LICENSE .....

##==> SECURITY: License file found and opened

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01022000>

##==> SECURITY: LICENSE DATE EXPIRED...

##==> checking for next license...

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01312000>

Enter the name of the file to be checked: -end

```
##==> *****
##==> ** Normal exit from interactive mode. **
##==> *****
##==> Number of files read: 0
##==> No apparent virus infections found.
##==> Vfind program termination
```

```
# date -u 020100352000
Tue Feb 1 00:35:00 GMT 2000
# date
Mon Jan 31 19:35:03 EST 2000
```

```
# ./vfind
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)
##==> Hostname is ethel with length of 5
##==> System Date -- Year: 2000 Month: 1 Day: 31 19:35:13
```

```
##==> SECURITY: FILE ./LICENSE .....
##==> SECURITY: License file found and opened
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01312000>
```

Enter the name of the file to be checked: -end

```
##==> *****
##==> ** Normal exit from interactive mode. **
##==> *****
##==> Number of files read: 0
##==> No apparent virus infections found.
##==> Vfind program termination
```

```
# date -u 020200352000
Wed Feb 2 00:35:00 GMT 2000
# date
Tue Feb 1 19:35:06 EST 2000
```

```
# ./vfind
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)
##==> Hostname is ethel with length of 5
##==> System Date -- Year: 2000 Month: 2 Day: 1 19:35:14
```

```
##==> SECURITY: FILE ./LICENSE .....
##==> SECURITY: License file found and opened
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01312000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02012000>
```

Enter the name of the file to be checked: -end

```
##==> *****
##==> ** Normal exit from interactive mode. **
##==> *****
##==> Number of files read: 0
##==> No apparent virus infections found.
##==> Vfind program termination
```

```
# date -u 020300352000
Thu Feb 3 00:35:00 GMT 2000
```

# date  
Wed Feb 2 19:35:05 EST 2000

# ./vfind  
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)  
##==> Hostname is ethel with length of 5  
##==> System Date -- Year: 2000 Month: 2 Day: 2 19:35:14

##==> SECURITY: FILE ./LICENSE .....

##==> SECURITY: License file found and opened

##==> SECURITY: Now processing license beginning with:  
##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01022000>  
##==> SECURITY: LICENSE DATE EXPIRED...  
##==> checking for next license...

##==> SECURITY: Now processing license beginning with:  
##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01312000>  
##==> SECURITY: LICENSE DATE EXPIRED...  
##==> checking for next license...

##==> SECURITY: Now processing license beginning with:  
##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:02012000>  
##==> SECURITY: LICENSE DATE EXPIRED...  
##==> checking for next license...

##==> SECURITY: Now processing license beginning with:  
##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:02292000>

Enter the name of the file to be checked: -end  
##==> \*\*\*\*\*  
##==> \*\* Normal exit from interactive mode. \*\*  
##==> \*\*\*\*\*

##==> Number of files read: 0  
##==> No apparent virus infections found.  
##==> Vfind program termination

# date -u 030100352000  
Wed Mar 1 00:35:00 GMT 2000  
# date  
Tue Feb 29 19:35:07 EST 2000

# ./vfind  
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)z  
##==> Hostname is ethel with length of 5  
##==> System Date -- Year: 2000 Month: 2 Day: 29 19:35:22

##==> SECURITY: FILE ./LICENSE .....

##==> SECURITY: License file found and opened

##==> SECURITY: Now processing license beginning with:  
##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01022000>  
##==> SECURITY: LICENSE DATE EXPIRED...  
##==> checking for next license...

##==> SECURITY: Now processing license beginning with:  
##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01312000>  
##==> SECURITY: LICENSE DATE EXPIRED...  
##==> checking for next license...

##==> SECURITY: Now processing license beginning with:  
##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:02012000>  
##==> SECURITY: LICENSE DATE EXPIRED...  
##==> checking for next license...

##==> SECURITY: Now processing license beginning with:  
##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:02292000>

Enter the name of the file to be checked: -end  
##==> \*\*\*\*\*  
##==> \*\* Normal exit from interactive mode. \*\*  
##==> \*\*\*\*\*

##==> Number of files read: 0  
##==> No apparent virus infections found.  
##==> Vfind program termination

```
# date -u 030200352000
Thu Mar 2 00:35:00 GMT 2000
# date
Wed Mar 1 19:35:03 EST 2000
```

```
# ./vfind
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)
##==> Hostname is ethel with length of 5
##==> System Date -- Year: 2000 Month: 3 Day: 1 19:35:14

##==> SECURITY: FILE ./LICENSE .....
##==> SECURITY: License file found and opened
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01312000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02012000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02292000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:03012000>
```

```
Enter the name of the file to be checked: -end
##==> *****
##==> ** Normal exit from interactive mode. **
##==> *****
##==> Number of files read: 0
##==> No apparent virus infections found.
##==> Vfind program termination
```

```
# date -u 030300352000
Fri Mar 3 00:35:00 GMT 2000
# date
Thu Mar 2 19:35:06 EST 2000
```

```
# ./vfind
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)
##==> Hostname is ethel with length of 5
##==> System Date -- Year: 2000 Month: 3 Day: 2 19:35:21

##==> SECURITY: FILE ./LICENSE .....
##==> SECURITY: License file found and opened
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01312000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02012000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02292000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
```

```
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:03012000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:09292000>
```

```
Enter the name of the file to be checked: -end
##==> *****
##==> ** Normal exit from interactive mode. **
##==> *****
##==> Number of files read: 0
##==> No apparent virus infections found.
##==> Vfind program termination
```

```
# date -u 093000352000
Sat Sep 30 00:35:00 GMT 2000
# date
Fri Sep 29 20:35:03 EDT 2000
```

```
# ./vfind
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)
##==> Hostname is ethel with length of 5
##==> System Date -- Year: 2000 Month: 9 Day: 29 20:35:09
```

```
##==> SECURITY: FILE ./LICENSE .....
##==> SECURITY: License file found and opened
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01312000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02012000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02292000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:03012000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:09292000>
```

```
Enter the name of the file to be checked: -end
##==> *****
##==> ** Normal exit from interactive mode. **
##==> *****
##==> Number of files read: 0
##==> No apparent virus infections found.
##==> Vfind program termination
```

```
# date -u 100100352000
Sun Oct 1 00:35:00 GMT 2000
# date
Sat Sep 30 20:35:03 EDT 2000
```

```
# ./vfind
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)
##==> Hostname is ethel with length of 5
##==> System Date -- Year: 2000 Month: 9 Day: 30 20:35:13
```

```
##==> SECURITY: FILE ./LICENSE .....
##==> SECURITY: License file found and opened
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01312000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02012000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02292000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:03012000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:09292000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022023>
```

```
Enter the name of the file to be checked: -end
##==> *****
##==> ** Normal exit from interactive mode. **
##==> *****
##==> Number of files read: 0
##==> No apparent virus infections found.
##==> Vfind program termination
```

```
# date -u 010200352023
Mon Jan 2 00:35:00 GMT 2023
# date
Sun Jan 1 19:35:06 EST 2023
```

```
# ./vfind
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)
##==> Hostname is ethel with length of 5
##==> System Date -- Year: 2023 Month: 1 Day: 1 19:35:15
```

```
##==> SECURITY: FILE ./LICENSE .....
##==> SECURITY: License file found and opened
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01312000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02012000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02292000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:03012000>
##==> SECURITY: LICENSE DATE EXPIRED...
```

```
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:09292000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022023>
```

```
Enter the name of the file to be checked: -end
##==> *****
##==> ** Normal exit from interactive mode. **
##==> *****
##==> Number of files read: 0
##==> No apparent virus infections found.
##==> Vfind program termination
```

```
# date -u 010400352023
Wed Jan 4 00:35:00 GMT 2023
# date
Tue Jan 3 19:35:03 EST 2023
```

```
# ./vfind
##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)
##==> Hostname is ethel with length of 5
##==> System Date -- Year: 2023 Month: 1 Day: 3 19:35:11
```

```
##==> SECURITY: FILE ./LICENSE .....
##==> SECURITY: License file found and opened
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01312000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02012000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:02292000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:03012000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:09292000>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:01022023>
##==> SECURITY: LICENSE DATE EXPIRED...
##==> checking for next license...
##==> SECURITY: Now processing license beginning with:
##VFIND9_VSTK<SYSTEM_NAME:ethel-EXPIRE:12312037>
```

```
Enter the name of the file to be checked: -end
##==> *****
##==> ** Normal exit from interactive mode. **
##==> *****
##==> Number of files read: 0
##==> No apparent virus infections found.
##==> Vfind program termination
```

```
# date -u 010100352038
```

Fri Jan 1 00:35:00 GMT 2038

# date

Thu Dec 31 19:35:04 EST 2037

# ./vfind

##==> Vfind Version: 10, Release: 0. Patchlevel: -6 (June 1999)

##==> Hostname is ethel with length of 5

##==> System Date -- Year: 2037 Month: 12 Day: 31 19:35:31

##==> SECURITY: FILE ./LICENSE .....

##==> SECURITY: License file found and opened

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01022000>

##==> SECURITY: LICENSE DATE EXPIRED...

##==> checking for next license...

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01312000>

##==> SECURITY: LICENSE DATE EXPIRED...

##==> checking for next license...

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:02012000>

##==> SECURITY: LICENSE DATE EXPIRED...

##==> checking for next license...

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:02292000>

##==> SECURITY: LICENSE DATE EXPIRED...

##==> checking for next license...

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:03012000>

##==> SECURITY: LICENSE DATE EXPIRED...

##==> checking for next license...

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:09292000>

##==> SECURITY: LICENSE DATE EXPIRED...

##==> checking for next license...

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:01022023>

##==> SECURITY: LICENSE DATE EXPIRED...

##==> checking for next license...

##==> SECURITY: Now processing license beginning with:

##VFIND9\_VSTK<SYSTEM\_NAME:ethel-EXPIRE:12312037>

Enter the name of the file to be checked: -end

##==> \*\*\*\*\*

##==> \*\* Normal exit from interactive mode. \*\*

##==> \*\*\*\*\*

##==> Number of files read: 0

##==> No apparent virus infections found.

##==> Vfind program termination

# ^D\_\_

script done on Thu Dec 31 19:36:12 2037

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