Subject: DST issue in Time()
Posted by koldo on Tue, 27 Mar 2018 07:08:22 GMT
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Hello all

Please check if we handle Daylight saving time properly in Windows.

I have checked it in C: local NTFS disk from Windows 10 and actual code does not report right hour.
However, from a Linux virtual machine, same code report properly the file time :)

```
Actual code for Windows:Time::Time(FileTime filetime) {
 SYSTEMTIME tm;
 FileTime ft;
 FileTimeToLocalFileTime(&filetime, &ft);
 FileTimeToSystemTime(&ft, &tm);
 *this = Time(tm.wYear, tm.wMonth, tm.wDay, tm.wHour, tm.wMinute, tm.wSecond);
}
Proposed code:Time::Time(FileTime filetime) {
 SYSTEMTIME tm, tml;
 FileTimeToSystemTime(&filetime, &tm);
 SystemTimeToTzSpecificLocalTime(NULL, &tm, &tml);

 *this = Time(tml.wYear, tml.wMonth, tml.wDay, tml.wHour, tml.wMinute, tml.wSecond);
}
```

See this:To account for daylight saving time when converting a file time to a local time, use the following sequence of functions in place of using FileTimeToLocalFileTime:

FileTimeToSystemTime
SystemTimeToTzSpecificLocalTime

Subject: Re: DST issue in Time()
Posted by mirek on Tue, 27 Mar 2018 13:49:41 GMT
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koldo wrote on Tue, 27 March 2018 09:08Hello all

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SystemTimeToTzSpecificLocalTime

Can you give me some context? E.g. testcase?

So far, I have tried with FileSel and time is reported correctly (for file that I have just saved and I have DST active here).

Mirek

Subject: Re: DST issue in Time()
Posted by koldo on Tue, 27 Mar 2018 21:23:40 GMT
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Hello Mirek

It has happened in my own C: disk. It is not possible to give you a test case because it is as simple as doing a FileGetTime(fileName), but used for files in my Windows 10 NTFS system.

Subject: Re: DST issue in Time()
Posted by mirek on Thu, 29 Mar 2018 10:28:59 GMT
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I can see it now, sorry. Applied.

(The problem was that I was testing with current "summer" file, while the problem appears to manifest with "winter" files).

What about

FileTime Time::AsFileTime() const

? Needs fixing too?

(Do not have time right now to check).

Subject: Re: DST issue in Time()
Posted by koldo on Fri, 30 Mar 2018 21:03:39 GMT
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Thank you Mirek

It seems it is not necessary to change AsFileTime().
It uses LocalFileTimeToFileTime, that is explained here and it says "LocalFileTimeToFileTime uses the current settings for the time zone and daylight saving time. Therefore, if it is daylight saving time, this function will take daylight saving time into account, even if the time you are converting is in standard time"

Subject: Re: DST issue in Time()
Posted by mirek on Sat, 31 Mar 2018 05:36:23 GMT
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Thanks!