

# Re: Windows CE BinaryCompression

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<http://www.tech-archive.net/Archive/WindowsCE/microsoft.public.windowsce.app.development/2007-01/msg00078>.

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- *From:* "Wagner Bertolini Junior" <[wagnerbertolini@xxxxxxxxxxxxxxxxxxxxxx](mailto:wagnerbertolini@xxxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Mon, 15 Jan 2007 11:49:01 -0300
- 

Ok, now i understand it!

I do not think about it because at my corp the default system of the mobile devices is "Windows CE 5.0"

Thanks a lot.

"<tacke/>" <tacke[ @ ]opennetcf[dot]com> escreveu na mensagem [news:Of0sOnKOHHA.4260@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:Of0sOnKOHHA.4260@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

If it must be portable, then it's certainly not the way to go. Use something like ZIP, GZIP or TAR. SharpZipLib is available and works fine. And it's a .NET interface.

—  
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—

"Wagner Bertolini Junior" <[wagnerbertolini@xxxxxxxxxxxxxxxxxxxxxx](mailto:wagnerbertolini@xxxxxxxxxxxxxxxxxxxxxx)> wrote in message [news:OORizyJOHHA.1872@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:OORizyJOHHA.1872@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

I will really need a specific format, because i need to decompress this file in another location sometimes.

but i´m really interested on this API.

See this article:

Save Space Using Windows CE Built-in Compression API's  
Jeff Zamora

Buried inside the (undocumented) Windows CE API are BinaryCompress and

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BinaryDecompress. These functions offer a built-in way to quickly and easily compress data, and should meet all your data compression needs.

You can use BinaryCompress and BinaryDecompress to perform buffer compression. BinaryCompress will take a buffer and return a compressed buffer. BinaryDecompress will take a compressed buffer and turn it back into the original. BinaryCompress and BinaryDecompress are defined in coredll.

I assume the compression API uses the same compression as the object store. That compression is comparative – Windows CE compresses the buffer using several methods and takes the winner. And remember, all files kept in the object store are compressed, so this is redundant if you are just storing data in a file on your device. On the other hand, these APIs might be useful if you are saving data to a compact flash card, or if you are generating backup files that may end up back on the device.

Here's an example:

```
DWORD BinaryCompress(LPBYTE bufin, DWORD lenin, LPBYTE bufout,
DWORD
lenout);
DWORD BinaryDecompress(LPBYTE bufin, DWORD lenin, LPBYTE
bufout, DWORD
lenout, DWORD skip);
```

```
TCHAR string[] = _T("The quick brown fox jumps over the lazy man who
did
not come to the aid of his country in time.");
BYTE buffer[1024];
BYTE inpBuffer[1024];
```

```
int length = BinaryCompress((BYTE*)string, wcslen(string) *
sizeof(TCHAR), buffer, 1024);
BinaryDecompress(buffer, length, inpBuffer, 1024, 0);
```

```
AfxMessageBox((TCHAR*) inpBuffer);
CString message;
message.Format(_T("%i, %i"), wcslen(string), length);
AfxMessageBox(message);
```

In this example, the uncompressed buffer is 188 bytes and the compressed buffer is 148 bytes. Not the best, but it is free.

Coredll also contains StringCompress and StringDecompress. I imagine these are the same as their binary counterparts, except they stop compressing when they encounter a terminating \0.

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"<tacke/>" <tacke[ @]opennetcf[dot]com> escreveu na mensagem  
news:u1K5tm2NHHA.1252@xxxxxxxxxxxxxxxxxxxxxxxxxxxx

You are going about this the completely wrong way. That's not what the function is for, and explaining how to get your data into some format that would be compatible in all cases would be long and counterproductive. Get a valid compression library or write something simple like RLE. You should not be P/Invoking for something like this.

—  
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"Wagner Bertolini Junior"  
<wagnerbertolini@xxxxxxxxxxxxxxxxxxxx> wrote in  
message  
news:B5B8025E-5128-4C25-A038-DECE2F86E711@xxxxxxxxxxxxxxxxxxxx

I am just trying to compress a file.

Why, it doesn't work?

I saw someone using it.. but he was using C++ to do it.  
But i think that is the same usage.

About the Word Aligned, means that the address of my pointer must be aligned?  
Now i get in trouble... I don't know if i can do that over .NetCF but i need to do a research....

"<tacke/>" wrote:

WORD aligned means it falls on a WORD divisible address (address % 2 == 0).

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DWORD aligned means it falls on a DWORD divisible address (address %4 == 0)

What exactly are you trying to do here anyway? I seriously doubt that you should be using this undocumented kernel API from an app, let alone a managed app.

--

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--

"Wagner Bertolini Junior"  
<wagnerbertolini@xxxxxxxxxxxxxxxxxxxx>  
wrote  
in  
message  
[news:uYcWqroNHHA.5016@xxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:uYcWqroNHHA.5016@xxxxxxxxxxxxxxxxxxxxxxxx)

Can anyone  
help me  
with this?

I found at  
winCe  
sources this  
function:

//-----  
//  
Compressors  
- bufin and  
bufout must  
be WORD  
aligned,  
lenout must  
be at

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```
least as
// large as
lenin,
CECOMPRESS_FAILED
is returned
if it doesn't
fit,
else
compressed
length
//
CECOMPRESS_ALL_ZEROS
returned if
buffer
entirely
zero. If
bufout
is
NULL, the
output
// length is
computed,
but the
results are
not stored.
Lenin must
be a
multiple of
2.
//-----
```

```
DWORD
NKBinaryCompress(
LPBYTE
bufin,
DWORD
lenin,
LPBYTE
bufout,
DWORD
lenout
)
{
DWORD
retval;
```

```
TRUSTED_API
(L"NKBinaryCompress",
CECOMPRESS_FAILED);
```

```
DEBUGMSG(ZONE_ENTRY,
```

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```
(L"NKBinaryCompress
entry:
%8.8lx
%8.8lx
%8.8lx
%8.8lx\r\n",
bufin, lenin,
bufout,
lenout));

retval =
CECompress(bufin,
lenin,
bufout,
lenout, 1,
1024);

DEBUGMSG(ZONE_ENTRY,
(L"NKBinaryCompress
exit:
%8.8lx\r\n",
retval));

return
retval;
}
```

But i  
CAN'T  
understand  
the  
comment,  
what is  
WORD  
aligned?

i'm trying to  
use it and  
i'm receiving  
an Error.. i  
will post the  
sample  
code:

```
//DWORD
BinaryCompress(LPBYTE
bufin,
DWORD
lenin,
LPBYTE
bufout,
```

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```
DWORD
lenout);
//DWORD
BinaryDecompress(LPBYTE
bufin,
DWORD
lenin,
LPBYTE
bufout,
DWORD
lenout,
DWORD
skip);
[DllImport("coredll.dll",
SetLastError=true)]
public static
extern
unsafe int
BinaryCompress(byte*
bufferIn, int
lenIn,
byte*
bufferOut,
ref int
lenOut);
[DllImport("coredll.dll",
SetLastError
= true)]
public static
extern
unsafe int
BinaryDecompress(byte*
bufferIn, int
lenIn, byte*
bufferOut,
ref int
lenOut, int
skip);
string
fileOpen =
"\\Temp\\test.bmp";
byte[] bFile;
bFile =
OpenFile(fileOpen);
byte[]
bufferNew
= new
byte[bFile.Length];
int iLen = 0;
int ret = 0;
fixed(byte*
```

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```
bLP =  
bFile)  
fixed (byte*  
bLPNew =  
bufferNew)  
{  
ret =  
BinaryCompress(bLP,  
(int)bFile.Length,  
bLPNew,  
ref  
iLen);  
if (ret != 0)  
{  
ret =  
Marshal.GetLastWin32Error();  
MessageBox.Show(new  
Win32Exception(ret).Message);  
//  
this always  
return 87 /  
Win32Exception  
}  
}
```

```
if anyone  
wants to see  
the  
OpenFile  
private  
static byte[]  
OpenFile(string  
fileOpen)  
{  
byte[] bFile;  
FileStream  
fs =  
File.OpenRead(fileOpen);  
bFile = new  
byte[fs.Length];  
byte[] bAux  
= new  
byte[1024];  
int  
bytToRead  
=  
(int)fs.Length;  
int count =  
0;  
int idx = 0;  
while
```

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```
(bytToRead
> 0)
{
count =
fs.Read(bAux,
0,
bAux.Length);
idx =
(int)fs.Length
-
bytToRead;
for (int i =
0; i < count;
i++)
bFile[idx+i]
= bAux[i];
bytToRead
-= count;
}
fs.Close();
return bFile;
}
```

The file  
length is  
307254  
bytes.  
Any idea??  
Thanks a  
lot.