

# How large is a DWORD with 32- and 64-bit code?

Asked 16 years, 2 months ago   Modified 2 years, 3 months ago   Viewed 162k times



In Visual C++ a DWORD is just an unsigned long that is machine, platform, and SDK dependent. However, since DWORD is a double word (that is  $2 * 16$ ), is a DWORD still 32-bit on 64-bit architectures?

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`c++` `winapi` `64-bit` `dword`



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edited Sep 30, 2016 at 14:26



nvoigt

77.1k ● 28 ● 98 ● 149

asked Sep 2, 2008 at 12:50



Haim Bender

8,157 ● 10 ● 54 ● 56

7   A a DWORD is not machine, platform, nor SDK dependent. – Mooing Duck Jul 16, 2013 at 17:40

## 4 Answers

Sorted by: Highest score (default)



Actually, on 32-bit computers a word is 32-bit, but the DWORD type is a leftover from the good old days of 16-bit.

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In order to make it easier to port programs to the newer system, Microsoft has decided all the old types will not change size.

You can find the official list here: [http://msdn.microsoft.com/en-us/library/aa383751\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/aa383751(VS.85).aspx)

All the platform-dependent types that changed with the transition from 32-bit to 64-bit end with `_PTR` (DWORD\_PTR will be 32-bit on 32-bit Windows and 64-bit on 64-bit Windows).



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edited Jan 27, 2010 at 0:40



Daniel Naab

answered Sep 2, 2008 at 13:02



Nir

The actual ranges are listed [here](#). – Laurie Stearn Apr 2, 2016 at 12:19

@LaurieStearn I think this article is about the data types that the Microsoft compilers use internally, not the winapi data types like `DWORD`. – jrh Dec 26, 2017 at 21:02

- 2 Yeah, the article in the answer's linked [official list](#) now has the ranges: Quote: **DWORD: A 32-bit unsigned integer. The range is 0 through 4294967295 decimal.** – Laurie Stearn Dec 27, 2017 at 3:02 ✎

DWORD is on the windows libraries equal to an "unsigned long" – jaques-sam Dec 5, 2018 at 12:23



It is defined as:

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```
typedef unsigned long    DWORD;
```



However, according to the MSDN:



On 32-bit platforms, long is synonymous with int.

Therefore, DWORD is 32bit on a 32bit operating system. There is a separate define for a 64bit DWORD:

```
typedef unsigned _int64 DWORD64;
```

Hope that helps.

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answered Sep 2, 2008 at 12:55



[Mark Ingram](#)

73.4k ● 53 ● 177 ● 233

No ... on all Windows platforms DWORD is 32 bits. LONGLONG or LONG64 is used for 64 bit types.



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answered Sep 2, 2008 at 12:55



[Rob Walker](#)

47.3k ● 15 ● 100 ● 137

it has nothing to do with Windows, it's Intel term – [Abyx](#) Jul 16, 2013 at 17:48

8 @Abyx: the typedef `DWORD` is very Windows. – [rubenvb](#) Jul 16, 2013 at 19:53

2 @rubenvb, oh and why it's called `DWORD` and not something else like `QBYTE` or `DUBWD` ? – [Abyx](#) Jul 16, 2013 at 20:47



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Windows API defines DWORD sizes as follows:

- **x86:** `sizeof(DWORD) = 4`
- **x64:** `sizeof(DWORD) = 4`

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answered Aug 15, 2022 at 20:21



[ogggre](#)

2,264 ● 1 ● 23 ● 19



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