

Re: advantage of using typedefs

Source: http://coding.derkeiler.com/Archive/C_CPP/comp.lang.c/2006-01/msg04141.html

- *From:* "John Bode" <john_bode@xxxxxxxxxxxxx>
 - *Date:* 30 Jan 2006 09:00:00 -0800
-

junky_fellow@xxxxxxxxxxxxx wrote:

> I was looking at the source code of linux or open BSD. What I found
> that lots of typedefs
> were used. For example, consider the offset in a file. It was declared
> as
> off_t offset;
> and off_t is typedefed as
> typedef long off_t;
>
> I wanted to know what advantage do we get by typedefs ? Why we did not
> declare
> offset simply as
> long off_t;
>
> Similar is the case with size of file and so on.....
>
> Does any one has any clue of why do we use typedefs in such cases ?
>
> Thanx for any help advance

There are several reasons for doing this.

1. At some point in the future, a "long" may no longer be adequate for representing offset values, and all offsets will need to be long long (or some other type). By creating the typedef, you only need to make that change in one place; i.e., change

```
typedef long off_t;
```

to

```
typedef long long off_t;
```

This is preferable to searching the source code for all offset variables (which may or may not be named "offset") and changing their definitions individually.

2. It allows you to implement the same types differently across

Re: advantage of using typedefs

different platforms, depending on what's the most efficient or practical for that platform. A 32-bit offset type would be wasteful on a 16-bit platform, whereas it wouldn't be sufficient for a 64-bit platform. Then you can have segmented architectures, where the offset can be defined as a page number as well as displacement. Again, you only have to make the change in one place, as opposed to finding and changing every offset variable.

3. Sort of as a corollary to 2, it allows you to hide certain implementation details from other programmers. You probably don't want people making assumptions about the size of the offset available to them, precisely because that value can change from platform to platform.

- **Follow-Ups:**

- ◆ **Re: advantage of using typedefs**

- ◇ *From:* tedu

- **References:**

- ◆ **advantage of using typedefs**

- ◇ *From:* junky_fellow@xxxxxxxxxxx

- Prev by Date: **Re: how to develop library (.a and .so files) ! URGENT!!!**

- Next by Date: **Re: compile detection of powf, etc**

- Previous by thread: **Re: advantage of using typedefs**

- Next by thread: **Re: advantage of using typedefs**

- Index(es):

- ◆ **Date**

- ◆ **Thread**