

comp.lang.c: Re: Implementation Independent Way to Move LSByte of Char to MSB of Int, etc

# Re: Implementation Independent Way to Move LSByte of Char to MSB of Int, etc

**Source:** [http://coding.derkeiler.com/Archive/C\\_CPP/comp.lang.c/2005-01/1662.html](http://coding.derkeiler.com/Archive/C_CPP/comp.lang.c/2005-01/1662.html)

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Hash: SHA1

Eric Sosman wrote:

[...]

> *Maybe there's a way to calculate  $(UINT\_MAX + 1)/(UCHAR\_MAX + 1)$*   
> *without risking zero in the numerator and/or denominator, but I*  
> *haven't figured one out. (Note that  $UCHAR\_MAX == ULLONG\_MAX$  is*  
> *permitted by the Standard.)*

Since  $UCHAR\_MAX \leq UINT\_MAX \leq ULLONG\_MAX$ ...

```
#if UCHAR_MAX == ULLONG_MAX
# define UINT_UCHAR_RATIO 1
#else
# define UINT_UCHAR_RATIO \
  (((unsigned long long)UINT_MAX + 1) / \
   ((unsigned long long)UCHAR_MAX + 1))
#endif
```

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Version: GnuPG v1.4.0 (GNU/Linux)

```
iD8DBQFB7B11+hz2V1ChukwRAoaVAJ0Zh2DOJwBXkeNRuyG/Jd0h9dx5cACcCD6a
ybh2nBGeJaFbYrAwuhhhMhA=
=otfo
```

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