Subject: System Variables: defining and using
Posted by Ray Muzic on Tue, 28 Apr 1998 07:00:00 GMT
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I wrote a function is_little_endian to determine if a system uses little endian data representation. (see below) It doesn't compile in IDL4 or IDL5. An error is generated on the return statement with the message that system variable !little_endian does not exist. Apparently IDL requires the system variable to be defined at compile time.

The idea was to, on the first call to this function, determine the endian of the system and store info in a system variable. On subsequent calls the function should note that the
system variable exists and use the stored result.

Is there a way to do this using system variables? I'd prefer to not use common blocks.

I relalize the endian determination is a cheap calculation so there is question as to whether or not saving the result in a system variable is really worthwhile. Nevertheless, I'm interested in the solution in regards to saving results in system variables in other applications.

```
function is_little_endian
; is_little_endian() returns
;       1b (true) if system uses little endian data representation
;       0b (false) otherwise.
;
; Side effects: Creates and sets the value of a sustem variable
!little_endian
; if it does not already exist.
;
;
defsysv,'!little_endian', exists=i
if i ne 1 then defsysv,'!little_endian', (byte(1, 0, 1))(0)
; grab first byte of a 2 byte integer representation of 1 (1st arg. to
byte)

return,!little_endian
```

Ray Muzic
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Subject: Re: System Variables: defining and using
Posted by mallors on Sun, 03 May 1998 07:00:00 GMT

In article <6ihdnf$rc8$1@ratatosk.uio.no>,
 steinhh@ulrik.uio.no (Stein Vidar Hagfors Haugan) writes:
>
>> Apparently IDL
>> requires the system variable to be defined at compile time.
>
> Yes, that's right. Which means they should preferably be defined
> in the IDL_STARTUP file. There is one way of getting around this,
> though. In your case, write
>
>   dummy = execute("endian = !little_endian")
>   return,endian
>
> instead of simply return,!little_endian. This will allow your
> routine to compile, and define the system variable before it's
> used.
>

From the file 51new.txt that was distributed with 5.1b3:

> "Note also that system variables can now be defined
> after code that references them is compiled (or even
> in the same routine) and IDL will correctly resolve the
> reference as long as the variable exists at the time the
> referencing code executes."

I tried the is_little_endian() function, and it works fine
with 5.1b3. I think 5.1 is due to be released any day now.

Regards,

-bob mallozzi

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Robert S. Mallozzi
http://cspar.uah.edu/~mallozzir/

Subject: Re: System Variables: defining and using
Posted by steinhh on Sun, 03 May 1998 07:00:00 GMT

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Regards,

Stein Vidar
