Subject: Re: Message From RSI VP of Engineering
Posted by btt on Thu, 25 Oct 2001 14:51:21 GMT
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JD

Thanks for assembling this comparison. This is the kind of meat-and-potatoes information I have been lacking. The numerical performance issue is a weighty one; that's not to diminish the importance of the native interface and display speed/rendering. I don't want to ask you to compare apples and oranges, but (I will anyway) how do you think the numerical performance of a Unix port of IDL to OS X will compare to that we currently see in IDL on the G4 under OS 9? When we switched from Unix IDL to Mac, I was blown away by the performance increase... will I be blown 'back' to the slower performance?

Ben

JD Smith wrote:

> "Liam E. Gumley" wrote:
>>
>> JD Smith wrote:
>> [stuff deleted]
>>> The bigger trouble lies under the hood. IDL for MacOSX had some
>>> significant optimizations for display and within the core engine itself
>>> which are being tossed out with the bath water. The display speed will
>>> suffer, since in effect you're running through *two* levels of display
>>> (the X level, which translates drawing commands into the native display
>>> level). Any use of the much-improved OpenGL OS/hardware support will be
>>> impossible. The powerful AltiVec tuning already accomplished or planned
>>> for the OSX version will not be included.
>>>
>>> Here's a small sampling of a feature table comparison, far from
>>> complete:
>>>
>>> +========================================================== ======+
>>> IDL feature comparison OSX Native OSX Straight Unix Port
>>> +========================================================== ======+
>>> Interface Aqua X/Motif (server required)
>>> Display Speed Fast Slow
>>> 3D/OpenGL Optimization Yes No
>>> Altivec Vectorization Complete None, or limited
>>> Separate Core/IDE Threads Yes No
>>> Pervasive PDF Output Yes No
>>> +========================================================== ======+
>>
>> Please correct me if I'm wrong, but I don't see why the display speed
>> would suffer.

> 
> I'll put a fine point on it: running the RSI-supplied graphics_times3
> benchmark on a native OSX vs. a X11-based IDL would reveal the former to
> be much faster than the latter. This is a direct result of layering two
> display devices one atop another (which is different from your SGI, for
> which X11 is the native drawing layer).
> 
> You could demonstrate this to yourself quite convincingly by running
> graphics_times3 in your IDL version running in an X-emulator under
> Windows, and on the Windows version directly. I think you'll find the
> latter to be a good deal faster.
> 
> This may not be a *practical* limit for what you do, but certainly could
> impact others with more display-taxing applications.
> 
> A similar story could be told for core routine performance and lack of
> Altivec tuning. Unless RSI is hiding a miracle up their sleeve, "IDL
> OSX--" will be noticeably slower in both display and computation than
> the aborted IDL OSX. Of course, we may never know the difference.
> 
> JD

--
Ben Tupper
180 Mckown Point Road
West Boothbay Harbor, ME 04575

email: btupper@bigelow.org
telephone: (207) 633-9600