From:	Paul Maritz
Sent:	Tuesday, May 27, 1997 11:01 AM
To:	Bob Muglia (Exchange)
Subject:	FW: Intel and Microsoft's new proposed 'collaborative' multimedia efforts

By way of background wrt comments about NetShow.

From:	Eric Engstrom
Sent:	Monday, May 26, 1997 6:03 PM
To:	John Ludwig; David Cole
Cc:	Brad Silverberg; Nathan Myhrvold; Gregory Faust; Jim Kajiya; Dan Ling; Rick Rashid; Jim Blinn; Deborah Black; Tod Nielsen; Moshe Dunie; Jim Allchin (Exchange); Craig Eisler
Subject:	Intel and Microsoft's new proposed 'collaborative' multimedia efforts

Here is a status update on what we are planning on doing with Intel in the near term. This email is not ment to escalate any of the issue described in this email since we believe that we are moving toward a positive resolution for Microsoft on all of them. None of these proposed actions are set in stone, these is a status update on what we are thinking and have proposed to Intel as a starting point. Objections to this should be raised to Craig and I.

The goal for our interactions with Intel Architecture Labs is that all of their efforts are neutral or positive for our strategic mm initiatives. I think it is unlikely that we will achieve 100% of this goal. We are working with Intel aggressively on three fronts (listed here in priority order), not including Chrome:

- **Getting Intel to drop its involvement in Interactive MPEG4**
  Intel is the reason that this part of the MPEG4 specification exists. One of their four key partners is Sun. This is a competing multimedia standard (using Java as the language and RDX/RSX as the basis of the API) to just about everything we do from Dynamic HTML down to DirectX foundation. It is obviously not as sophisticated or general purpose as our technologies are, but it does have some of the key features of each of these technologies synthesized together and targetted for the augmented/interactive video market.

  Proposed Actions:
  - Microsoft and Intel joint development of Interactive DVD for Windows
    This proposal is a chance for them to get what they wanted out of Interactive MPEG 4 while delivering a solution based completely on Dynamic HTML/DirectX that really requires their processors to make it work well. They are very excited about this and we are going to charge forward on this as soon as IE4 is released. Right now we are just negotiating how we will set this development cycle up. We are of the opinion that as long as it is based on our software they can drive, since we wouldn't put this at the top of our list of priorities right now anyway.
  - Agreeing to ship procedural textures as filter effects in IE4 and future versions of DirectX media.
    This is the first sign of good faith on our part. This fits nicely with our existing filter architecture in both DirectX and Dynamic HTML. They are very small (total 40K). They scale to the processor very well. They fit very well with the DirectX files, scalable content, part of our mm strategy. We already have a small effects library in IE4 (originally part of IHammer) so it is every easy to add these to it.
  - Intel integrating Indeo 5.0's special features into our DirectShow client rather than ship their own.
    This is the first sign of good faith on their part. The key features of Indeo 5.0 are around progressive download. They have a great codec for this, unfortunately, to reap the benefits they needed modifications to the client. They have totally revectored their standalone client work in favor of a completely DirectShow dependent client. There original intention was to do a NetScape plug-in first.

    They are moving engineers on-site to work with us on these items this week.

- **Intel to stop helping Sun create Java Multimedia APIs, especially ones that run well (ie native implementations) on Windows**
  On every partner slide that I saw from IAL on my last visit Sun was a featured partner. For example, in addition to the interactive MPEG 4 proposal, their large polygon model work (our DirectModel technology we are integrating from HP) was being done with Sun for inclusion in Java3D. We believe that in the absence of a clear direction and engaging partnership with us they will end up working with whomever seems to be making the most noise in multimedia at the moment.

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Proposed Actions:

- Intel agrees to stop helping Javasoft in any area where Microsoft agrees to ship Intel technology as part of DirectX media
  See "Intel to augment DirectX" below for details on how we are handling this.
- HP, Intel, and Microsoft agree to invest in a single large model technology for Windows.
  Key technical contexts at HP, Intel, and Microsoft have been connected. We are hoping to use Intel and HP dev resources on this project, we are trying to stay in the PM role as much as possible.
- HP, Intel, and Microsoft working on a joint one day developer conference at SigGraph to cover the details of our mm strategy (e.g. DirectX) and the value each player brings to it.
  We are in the planning stages of this now. This addresses one of their second order concerns about working tightly with us which is that Intel and HP both want public attribution for their work. I think that is cheap for us and may actually prove valuable in this partner happy world we live in at the moment.

- **Intel to augment DirectX rather than compete with it**
  Intel has several efforts at the moment that confuse the market about how to do multimedia on Intel based Windows platforms. These include RSX (3D sound), RDX (sprite engine), video playback extensions, and new efforts for procedural textures, procedural geometry, and large model management (competitive with our HP Jupiter technology). They have stopped investing in 3DR as a result of Direct3D's success in the market place.
  They also have a rather large evangelist force that is willing to use monetary incentives. We want them pushing DirectX rather than some bits of Javasoft and Intel technology.

  Proposed Actions:

  - Microsoft agrees to ship RSX as DirectSound3DRM
    We have editing rights on the API to make it look like a DirectX API and to make sure that the functionality fits well with DirectSound, DirectAnimation, VRML2, and Chrome. Intel engineers make the changes to the code and the documentation. They also provide testing. We attribute Intel for this component. We get IP, source, etc.
  - Microsoft agrees to ship RDX as DirectDrawRM
    We have editing rights on the API to make it look like a DirectX API and to make sure that the functionality fits well with DirectSound, DirectAnimation, VRML2, and Chrome. Intel engineers make the changes to the code and the documentation. They also provide testing. We attribute Intel for this component. We get IP, source, etc.
  - Microsoft agrees to ship procedural textures and meshes as part of Direct3DRM
    We have already looked at the texture API in detail. Intel is making the modes required to make it an integrated part of Direct3DRM and Dynamic HTML. We will work on the mesh portion after IE4 and DirectX media 5.1 ship. We attribute Intel for this component. We get IP, source, etc.
  - Intel and Microsoft define key game style 3D software rasterizers and Intel implements them both in Pentium and MMX versions.
    Currently we are discussing depth field rasterization, bump map texture mapping rasterizer, and a span line rasterizer. We attribute Intel for this component. We get IP, source, etc.
  - Intel agrees to build Autodesk 3D Studio Max plug-ins for DirectX
    They asked for permission to build a plug-in that would support our progressive mesh structure. They would like to merge this with the procedural texture and mesh technology that they have so that the whole thing is easy to author from Autodesk 3D Studio. We intend to engage our DirectX author team with Intel on this to make this plug-in capable of in-place editing of 3D meshes as well. This ships as part of our DirectX SDK and we give it to Autodesk as well.

Intel is also eager to MMX optimize various components for us including our higher level components like Direct3DRM, DirectModel, and DirectAnimation. They were very clear that they would not be willing to do this exclusively. That is what led to the list of proposed actions in this email.

We are holding Chrome (the multimedia browser or mmx browser) out to them as the big carrot that we engage on just as soon as we have demonstrate that we can work together effectively.

There were no plans to staff any of the components that we are picking up from Intel in the immediate future so we believe it is hard to say that shipping these puts the implementation of our mm strategy in worse shape than letting these ship with Java Multimedia would. Using the same logic, failure on this front doesn't cost us much either and there is a lot of upside.

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