Microsoft Confidential
QuickTime / DirectX Convergence Proposal

Migration to MOV file format

- Microsoft adopts MOV files
    - Phase out WAV, AVI, MID files
    - Re-vector our ASF 2 work into MOV
- MOV becomes the media container for Windows and Mac
- Collaboration between Apple and Microsoft on MOV going forward

Codec Détente

- Cross license all of the codecs that we own between the two companies
    - Most of these codecs are old codecs that just cause our mutual customers pain
    - MPEG4 is our newest streaming video codec
- Collaboration on all future codecs
    - We have a substantia. codec group and are hiring aggressively in this space
- Codec plug in model is native to platform

Internet Co-operation

- Enhancing DHTML for multimedia
    - Co-operation on synchronization tags
    - VML+ tags (Vector Graphics)
- Codecs central
- Chrome?

Run-Time

- Run-Time is DirectX on Windows, QuickTime on the Mac
- Microsoft streaming media client for the Mac is branded QuickTime
    - Built on QuickTime run-time
    - Supports Microsoft streaming media server
    - Ships with the Mac OS as the exclusive streaming media client
- We will license DirectX to Apple for the Mac if desired

QuickTime Author

- We adopt QT video editing APIs
    - On Windows must use DirectX media run-time
- Apple adopts AAF
    - We will work with the other promoters to make Apple a promoter (we do not believe this will be hard at all)
- Apple and Microsoft work together on MPEG4 and SMPTE standards bodies
    - Get adoption of MOV and AAF technologies

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PR & Attribution

- Microsoft announcements
    - Adoption of MOV as the Windows file format
    - Adoption of QT Authoring services
- Joint announcements
    - Adoption of AAF
    - Joint MPEG4 and SMPTE standards efforts
    - Collaboration/Co development of ASF2 as MOV streaming
- Display the QT logo on the Windows Media Player whenever a MOV file is playing
- SDK attribution for QT Author

DirectX Multimedia Strategy

End User Experience

Authoring

Content Platform

High level API

Low level API

Streaming Media Server

Content Creation Tools

Liquid Motion

Chrome

Dynamic HTML

DirectX media

DirectX foundation

DirectX files

DirectX author

DirectX architecture

Windows Media Player

Chrome

DirectX media

Direct Play

Direct Show

Direct Animation

Direct 3D RM

DirectX Transforms

DirectX foundation

Direct Sound

Direct Input

Direct Music

WDM

Direct Draw

Kernel streaming

Direct 3D IM

DirectX (HAL)

GDI

OGL

Hardware

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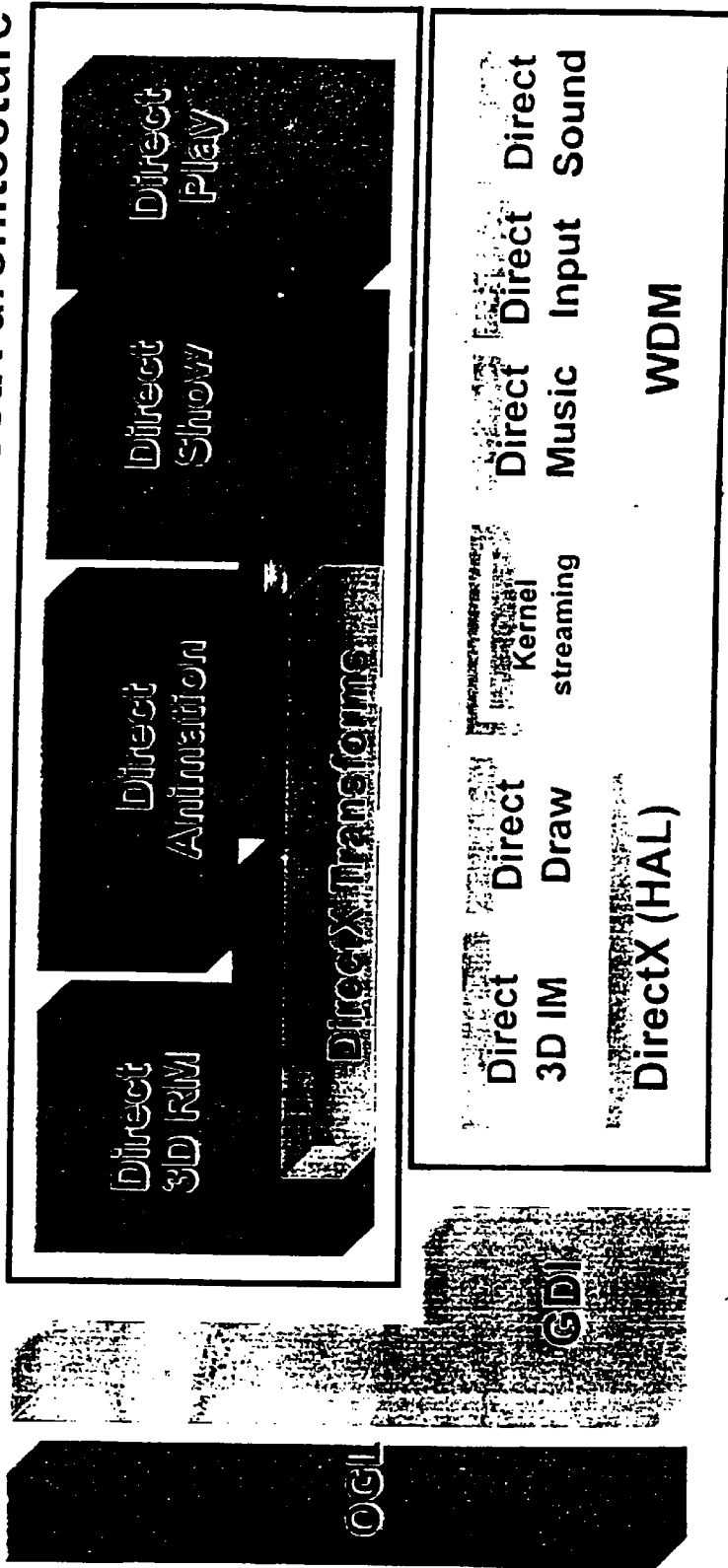
- DX Overview
- Chrome Demo
- QT Convergence

- Authoring → Liquid Motion
- Content Platform → Chrome (Eric Engstrom, etc.)
- High-level API → DX media (Eric Engstrom ≈ 230 people)
- Low-level API → Direct X Foundation (Jay Torborg runs it) ≈ 140 people
- DirectX files

2ϕ people working on codecs → 4ϕ people soon
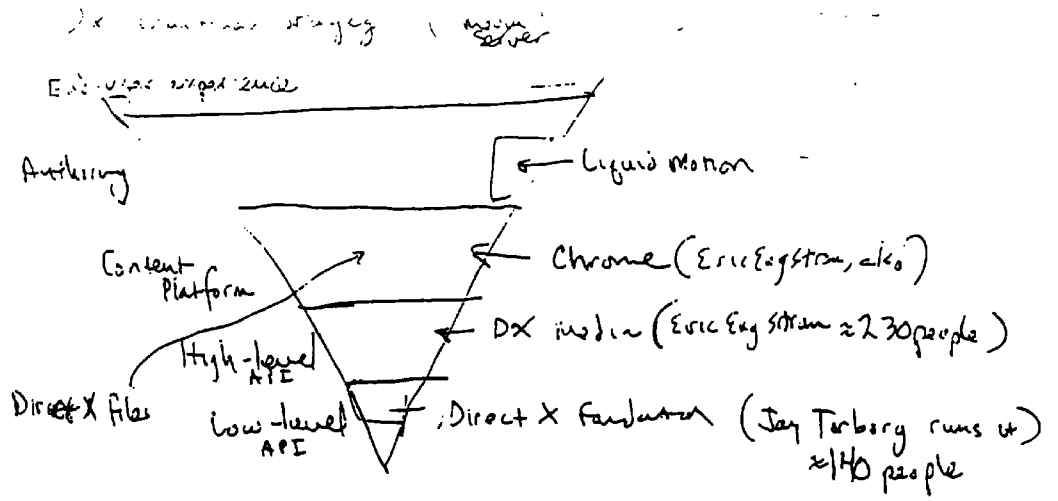
[150 people working on Streaming server]

Want Apple client to work well with MS Netshow server

- Adopt QT File Format
- Resolve codec mess
- Can we agree on streaming formats + protocols?

[MS claims they have 70% of IP pool for MPEG-4 codec]

{ - Protocols
  - Codecs
  - XML tags }

"Build a unified run-time for Windows; use it in Office, IE, Windows." - Engstrom

~~If MS is to ship QT api~~

Eric Engstrom   Phil Schiller
Chris Philips   Avie
Cristiano Pierry   Steve Jobs
                   Peter Hoddie

Monday, June 15, 1998 —
   Ceo Conf. Room

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