

Welcome

To Advance through Presentation
Use Page Up and Page Down Keys



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QuickTime 4

Jim Batson

Peter Hoddie

And a cast of thousands



QuickTime 4

- Highest quality
- Great content
- Open standards
- No server tax



Roadmap

QuickTime Internet Media

Streaming, Browser
Plug-in & http/ftp

Hall A2
Tues., 1:00pm

QuickTime Interactivity

Wired Movies, Sprites &
QuickTime VR

Hall A2
Tues., 2:30pm

QuickTime for Java

Great media support for Java,
at long last

Hall A2
Tues., 4:00pm

QuickTime Feedback Forum

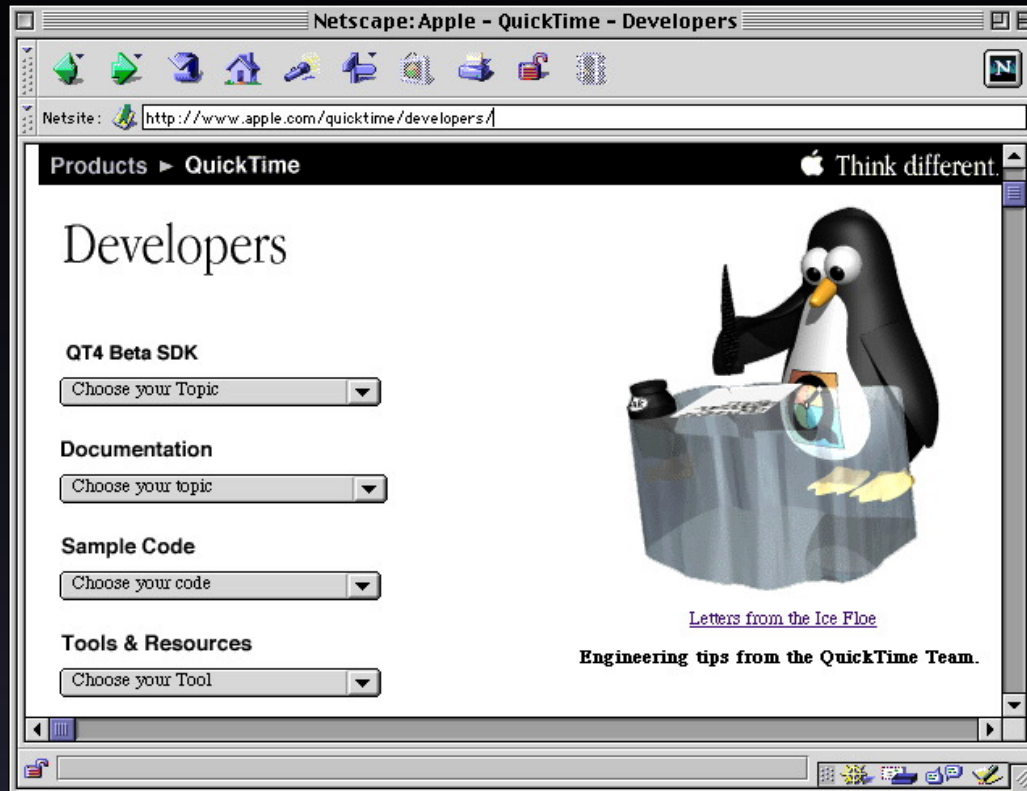
You set the agenda

Hall J2
Tues., 5:30pm



Developer Page

- Documentation, Sample Code, Tools & “Letters from the Ice Floe”
- www.apple.com/quicktime/developer



Mailing Lists

- QuickTime-API — for programmers
- QuickTime-Talk — for content creators
- QuickTime-VR — programmers & content creators
- QuickTime-Announce — general interest
- Sign-up at
 - www.apple.com/quicktime/developers/devsupport.html



Licensing

- Final license available with QuickTime 4 GM
- Free license still available
 - Software distribution license required
- No advertisement during install
- No “Get QuickTime Pro” movie on desktop



Download Size

- Popular Internet downloads for Mac OS

Navigator 4	7.7 MB
Internet Explorer 4.5	6.4 MB
QuickTime 3	6.3 MB
Outlook Express 4.5	6.2 MB
Real Player G2	4.2 MB
AOL Instant Messenger	3.2 MB
Windows Media	2.8 MB
QuickTime 4 Basic	2.8 MB



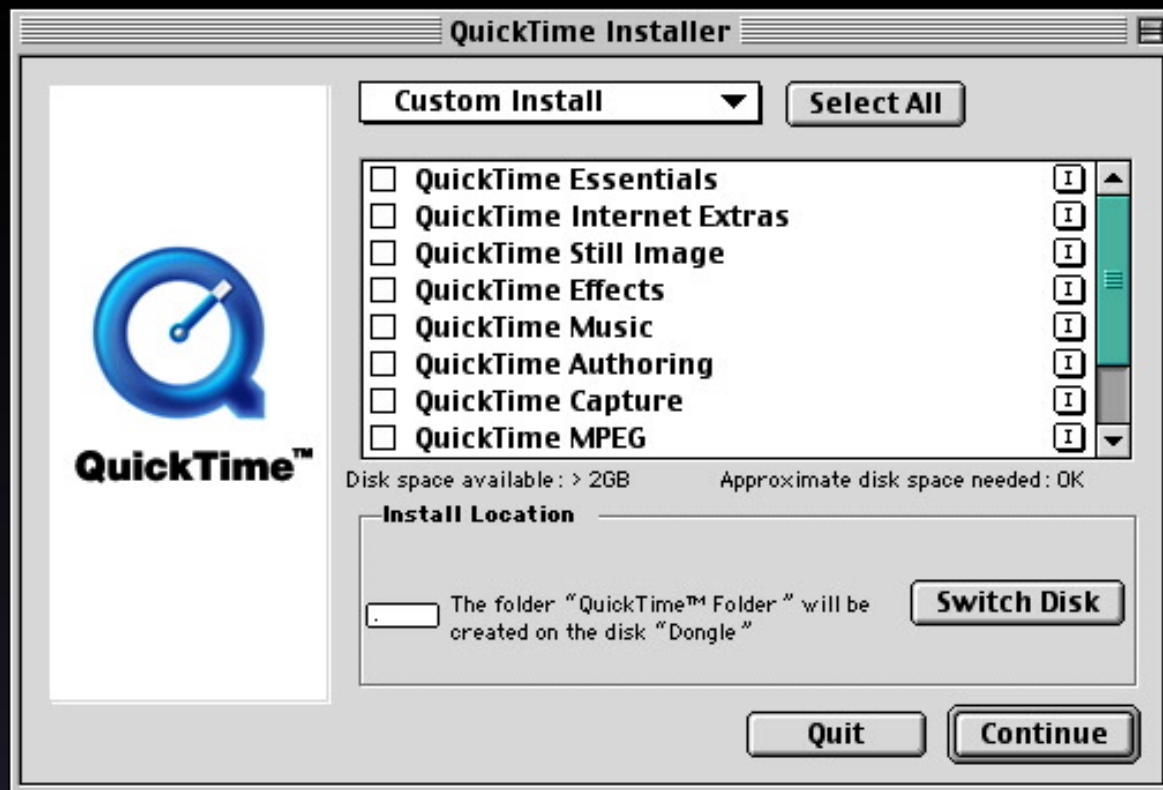
New Installer



Install Packages



Packages: Custom



What's in Basic?

- QuickTime Player, Browser Plug-in, Control Panel, Updater
- QuickTime Streaming
- QDesign 2, PureVoice
- Sorenson, h.263, Cinepak
- GIF, JPEG, PNG
- Flash 3

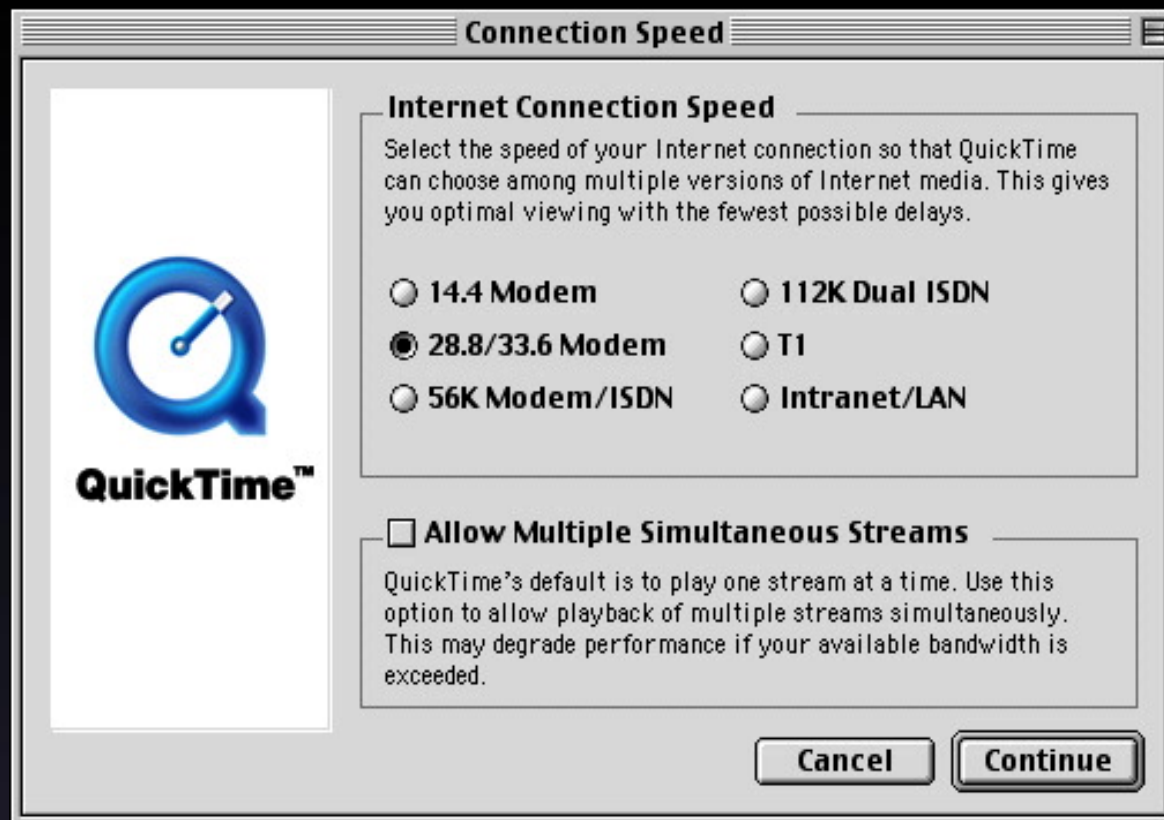


What's in Deluxe?

- AVI
- MP3 & MPEG
- QuickTime VR
- Sprite and Tween media handlers
- QuickTime vector graphics
- Basic visual effects
- Legacy decompressors



Connection Speed



User Registration

Registration

Enter your QuickTime Pro registration number. The Registered To and Registration number must exactly match your registration information.

If you do not have a registration number, leave the field blank and click Continue. You can enter it later using the QuickTime Settings control panel.


QuickTime™

Registered To:

Organization:

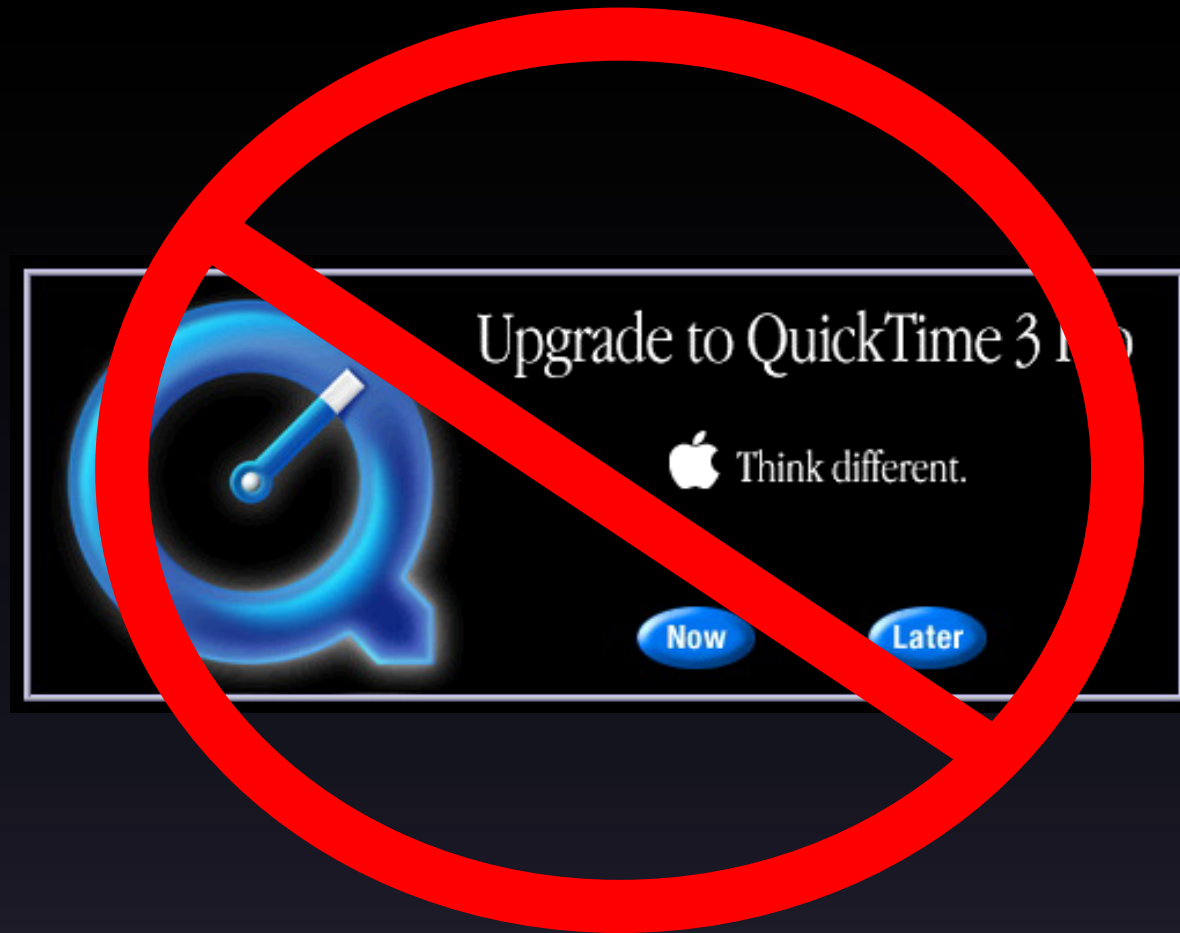
Registration Number:



Get QuickTime Pro



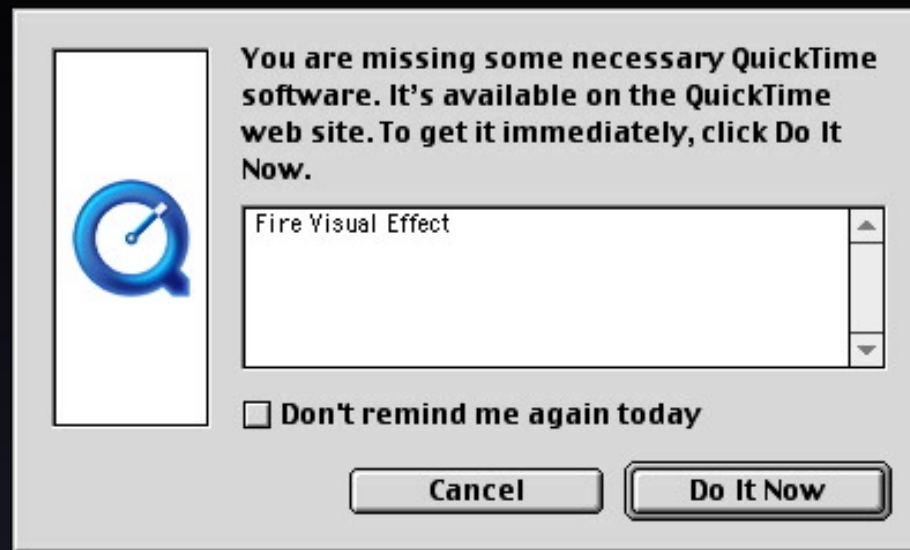
Get QuickTime Pro



Download Packages



Missing Components





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Demonstration

Missing Components

Detecting Components

```
ComponentDescription cd;  
Component aComponent;  
Boolean videoDecompressorInstalled;
```

```
cd.componentType = decompressorComponentType;  
cd.componentSubType = kVideoCodecType;  
cd.componentManufacturer = 0;  
cd.componentFlags = kAnyComponentFlagsMask;  
cd.componentFlagsMask= cmplsMissing;  
aComponent = FindNextComponent( nil, &cd ) ;
```

```
videoDecompressorInstalled = (aComponent != 0);
```



MP3

- Highest quality decoder by Fraunhofer IIS
- Playback of MP3 audio stored in MP3, Wave, AVI, AIFF, and Movie files
- Progressive download in browser, QuickTime Player or any application





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Demonstration

MP3

Sound: Bass & Treble

- Using Sound Manager

```
UInt32 gain;  
SInt16 bass, treble;
```

```
SndSetInfo(chan, siEQToneControlOnOff, (void *)true);
```

```
gain = (treble << 16) | bass;  
SndSetInfo(chan, siEQToneControlGain, (void *)gain);
```



Sound: Bass & Treble

- Range: -256 to $+256$
- Using Movie Toolbox

```
Track soundTrack;  
Media soundMedia;  
MediaHandler soundHandler;  
SInt16 treble, bass;
```

```
soundMedia = GetTrackMedia(soundTrack);  
soundHandler = GetMediaHandler(soundTrack);
```

```
treble = -256;  
bass = +256;  
MediaSetSoundBassAndTreble(soundHandler, treble, bass);
```



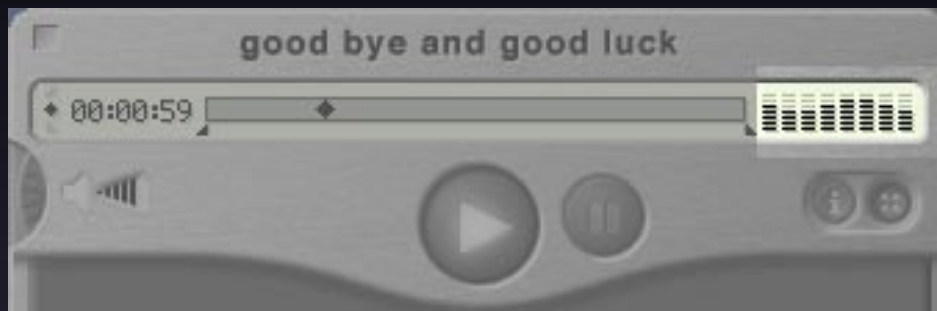
Sound: EQ Display

- Using Movie Toolbox

```
MediaEQSpectrumBandsRecord spectrumInfo  
UnsignedFixed frequencies[2] = {220 << 16, 440 << 16 };  
UInt8 bands[2];
```

```
spectrumInfo.count = 2;  
spectrumInfo.frequency = frequencies;
```

```
MediaSetSoundEqualizerBands(soundHandler, &spectrumInfo);  
MediaGetSoundEqualizerBandLevels(soundHandler, bands);
```





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QuickTime VR

Graphics: More Color

- 16-bit gray
- 32-bit gray + alpha
- 48-bit RGB
- 64-bit ARGB
- CCIR 601
- YUV 4:2:2 full-range
- CMYK



Wider Images

- Row bytes can now be 32-bit
- Requires Mac OS 8.5 or later
- Available on all Windows platforms
- New accessor functions
 - QTGetPixMapHandleRowBytes
 - QTSetPixMapHandleRowBytes
 - QTGetPixMapPtrRowBytes
 - QTSetPixMapPtrRowBytes





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Graphics Importers

Graphics Importers

- Multi-image support
 - FlashPix , Photoshop, TIFF

```
GraphicsImportComponent gi;  
UInt32 imageCount;
```

```
GraphicsImportGetImageCount(gi, &imageCount);
```

```
for (i = 1; i <= imageCount; i++) {  
    GraphicsImportSetImageIndex(gi, i);  
  
    GraphicsImportDraw(gi);  
}
```



Graphics Exporters

- The easiest way to create image files
- Supported formats

BMP

PNG

JPEG

QuickTime Image

MacPaint

SGI

Photoshop

TGA (Targa)

PICT (Picture)

TIFF



Graphics Exporters

```
GraphicsExportComponent ge = 0;
```

```
OpenADefaultComponent(GraphicsExporterComponentType,  
                        kQTFileTypePNG, &ge);
```

```
GraphicsExportSetInputGWorld(ge, myGWorld);  
GraphicsExportSetOutputFile(ge, &myFile);
```

```
GraphicsExportDoExport(ge, nil);
```

```
CloseComponent(ge);
```





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Graphics Exporters

Visual Effects

Visual Effects

- New
 - Lens flare, Zoom
- Improved
 - Blur, Sharpen
- Application Support
 - Adobe Premiere, Final Cut Pro
 - Electrifier Pro, iShell



Movie Export

- New formats supported:
 - AVI, FLC, Image Sequence
- Export Presets





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Movie Exporters

Movie Import

- More import in place
 - MIDI & Text
 - Handle Data Handler
- AVI
 - Progressive download



Movie Import: Flash

- Based on Flash 3 from Macromedia
- Extensions
 - Wired Actions
 - Transparency





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Movie Importers

Wired Movies

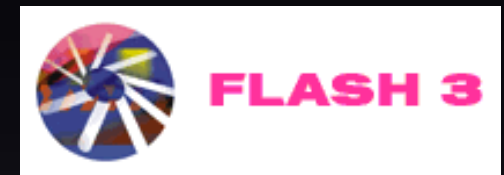
- Add interactivity to QuickTime media
- Supported media types
 - VR
 - Flash
 - Text
 - 3D
 - Sprites



Wired Movies: Tools



LIVE\$TAGE



soundsaVR®

revolVR®

mapsaVR®



Streaming: Standards

- Network
 - RTSP for control
 - RTP for media transport
- Compression Technologies
 - JPEG, h.261, h.263, PureVoice, DVI



Streaming: Standards

- File Format
 - QuickTime file format with proposed MPEG-4 enhancements
- Open Source Server





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Demonstration

Streaming

Streaming: Stored

Streaming
Server



Client



Network



Streaming: Reassembler

S

C

Reassembler

R

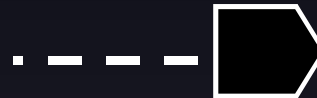
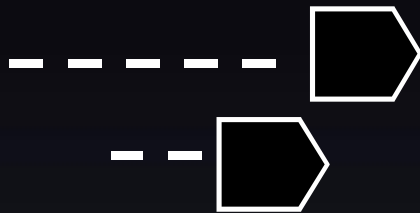


Streaming: Delays

S

C

R



Streaming: Packet Loss

S

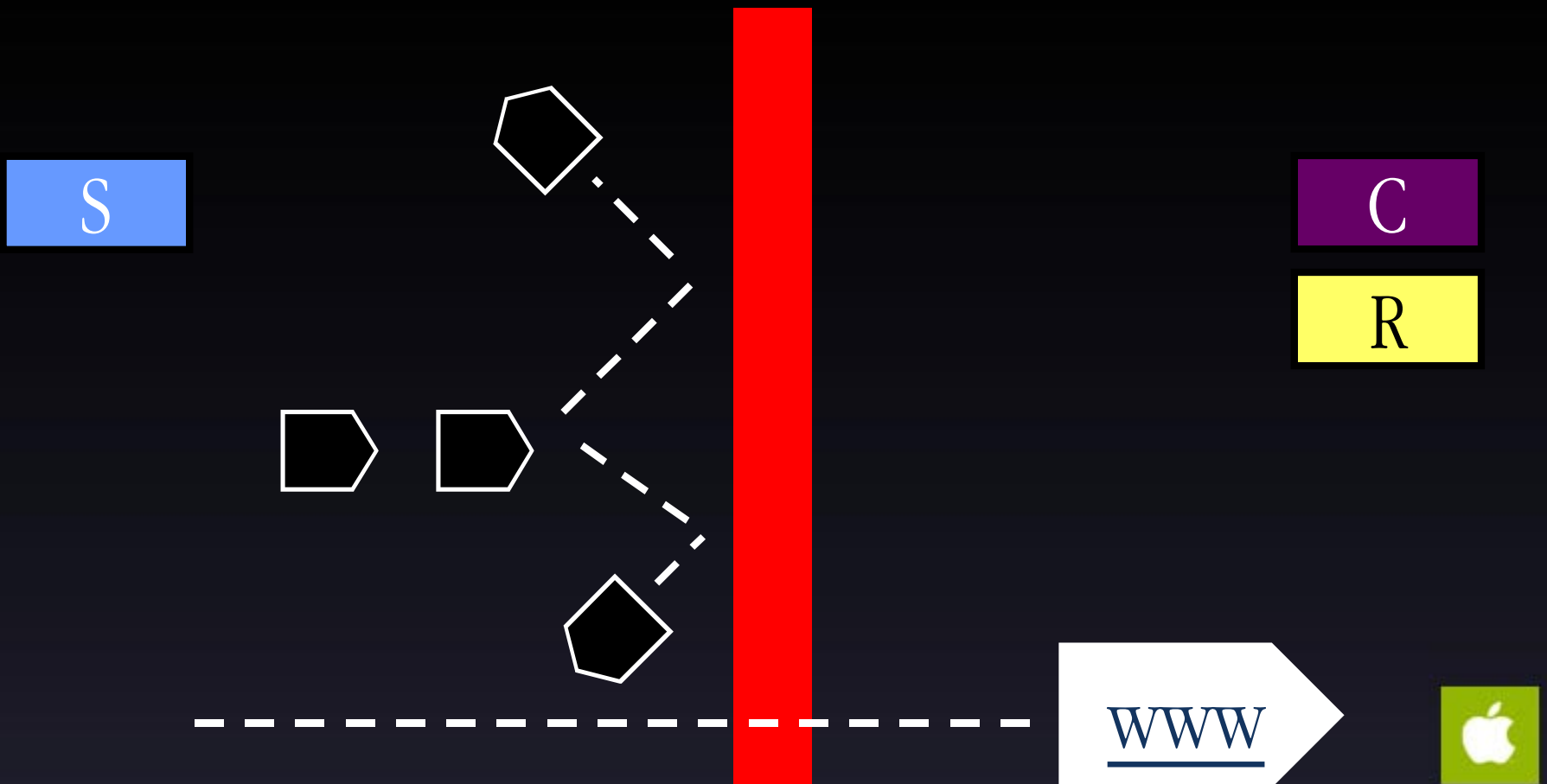
C

R

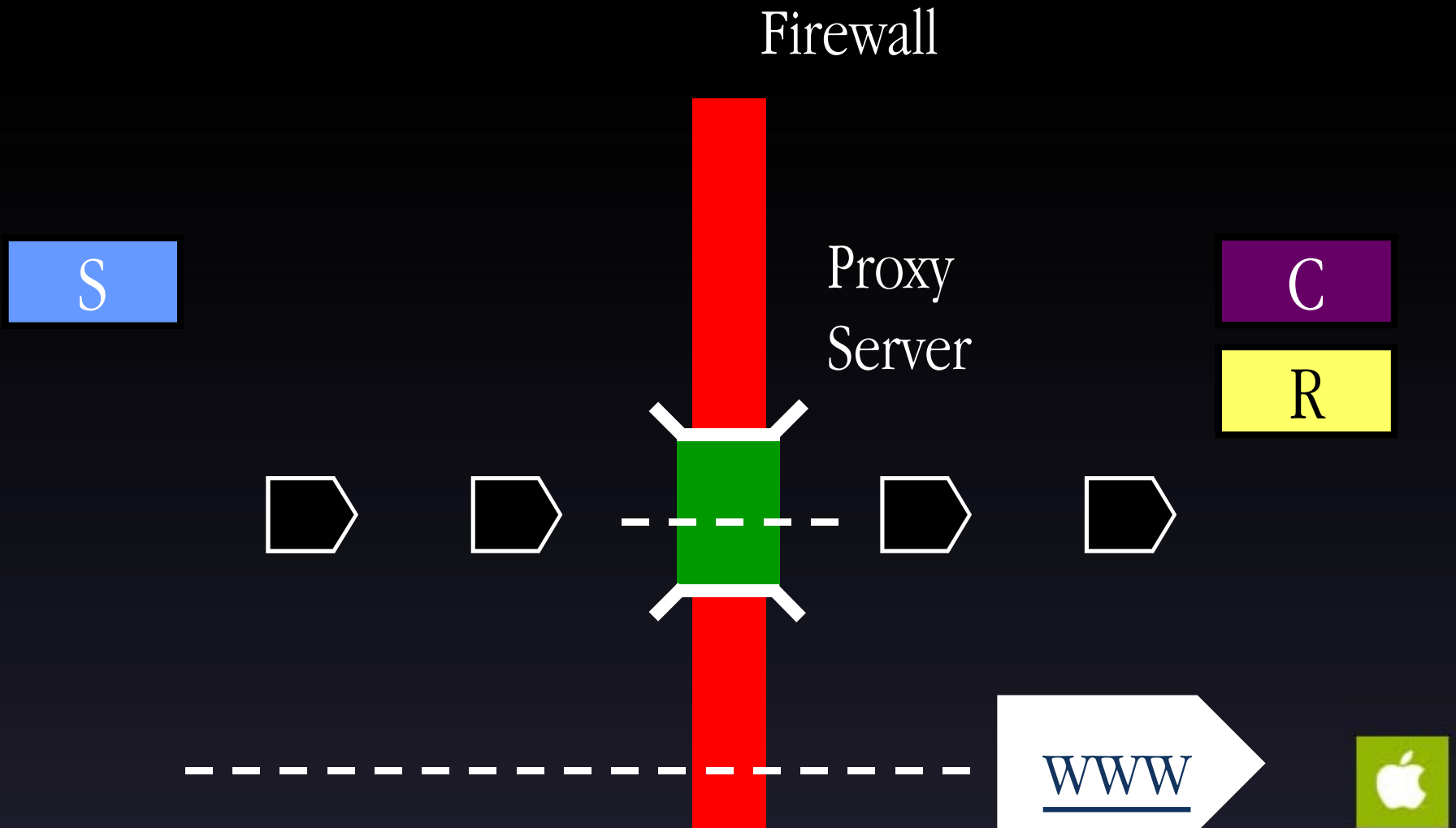


Streaming: Firewalls


Firewall





Streaming: Proxy Server



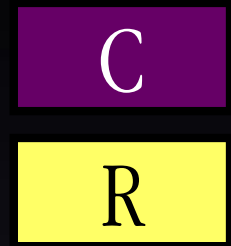
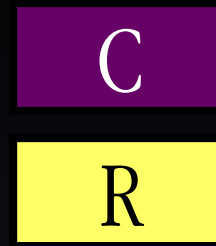
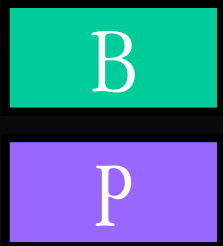
Streaming: Broadcast

 B Broadcaster
 P Packetizer

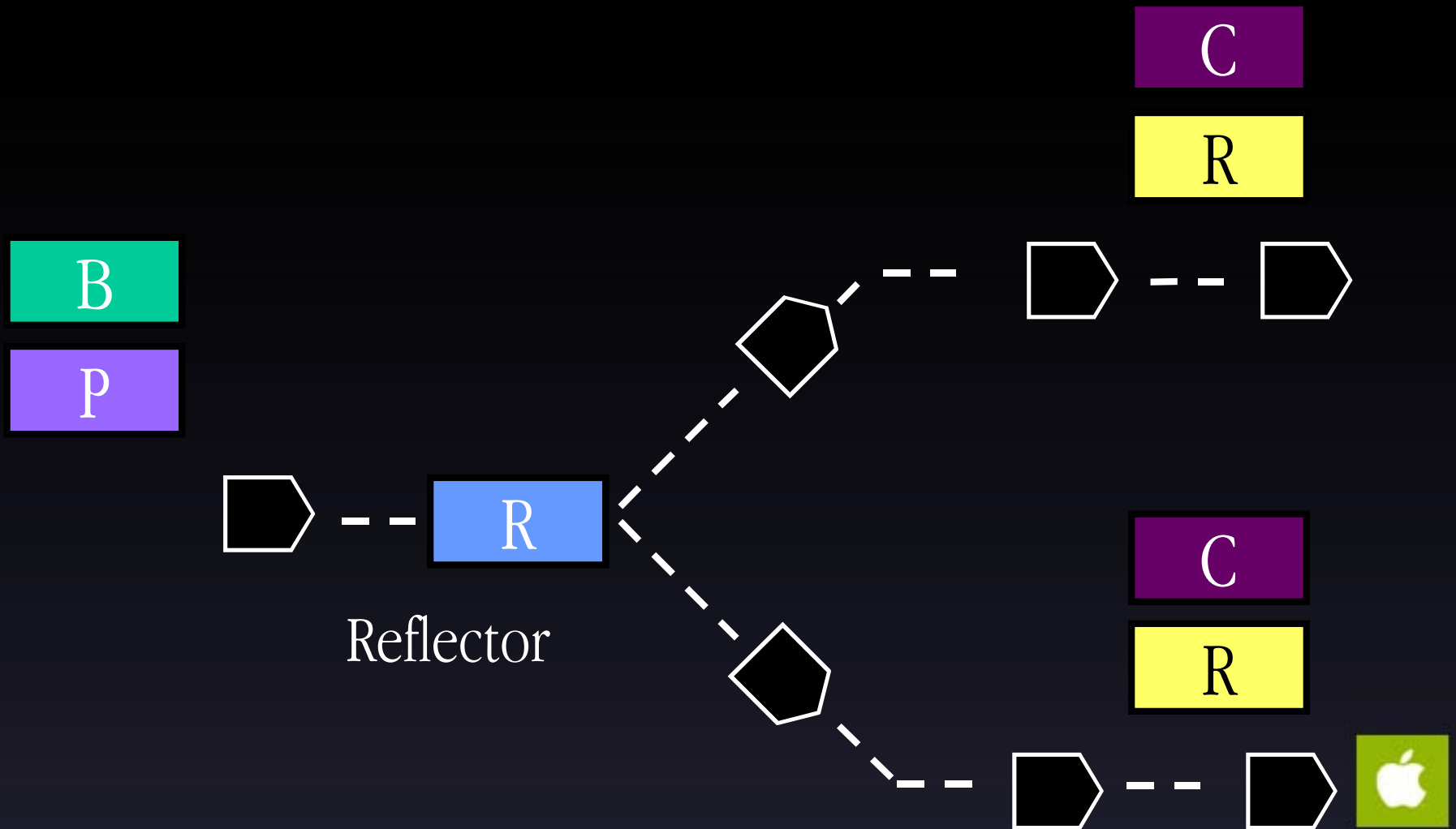
 C
 R



Streaming: Multicast



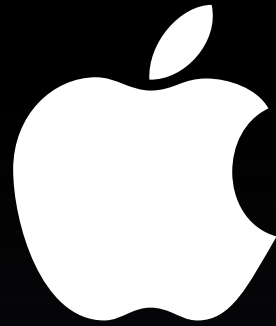
Streaming: Reflector



QuickTime 4

- Fast, Easy Install
- Mac OS and Windows
- Streaming
- Highest quality
- Media rich
- Open Standards
- Ready to use in your products





Think different.TM



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