

Яндекс

Яндекс Карты

Адвокат Flash

Всеволод Шмыров, WSD Москва 2019

Кто я такой?

Меня зовут Сева

Я руководитель группы разработки веб-сервисов

Кто я такой?

Меня зовут Сева

Я руководитель группы разработки веб-сервисов

В прошлом я был Flash-разработчиком



Ваш игровой ID: 9287479


```
async function request(  
    url: String,  
    params: IParams = {}  
): Promise<Response> {  
    /* ... */  
}
```

```
private function load(url:String):URLStream {  
    /* ... */  
}
```

Почему пришла идея сделать доклад?

Flash умер

Почему пришла идея сделать доклад?

Flash умер

Все помнят только негативное

Почему пришла идея сделать доклад?

Flash умер

Все помнят только негативное

Вспомним положительный вклад Flash

Что будет в докладе?

Хронология технологии Flash

Как веб-разработчики использовали Flash?

История Flash



| 1996 – 2006

1996 – 2006

1996 — Первые версии Macromedia Flash и Flash Player

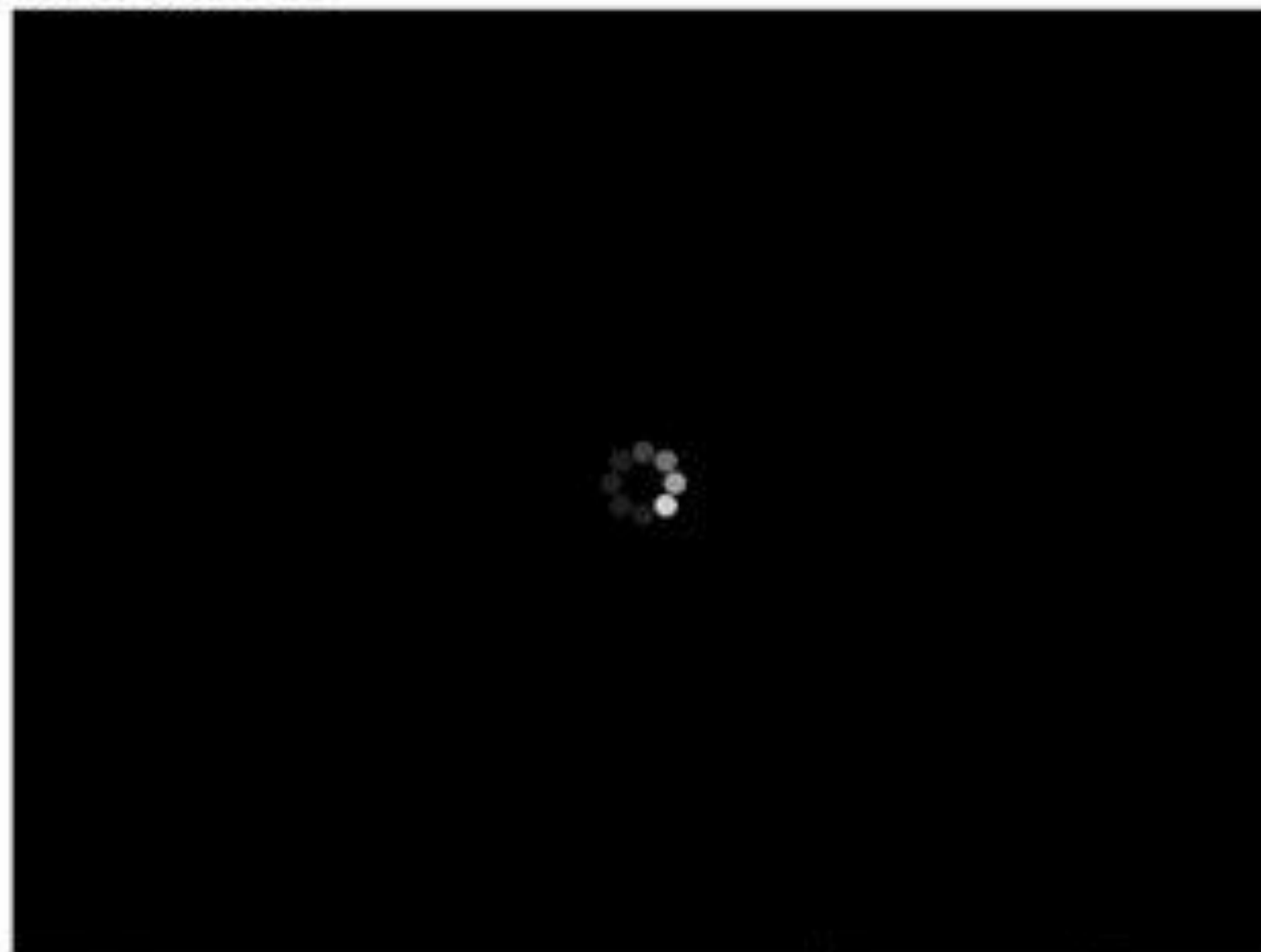
2000 — ActionScript 2.0

2005 — Покупка Macromedia компанией Adobe

```
on(release) {  
    gotoAndPlay("start");  
}
```

```
var txtHello: TextField = this.createTextField(  
    "txtHello", 0, 0, 0, 100, 100  
);  
  
txtHello.text = "Hello, world";
```


Me at the zoo



Rate this video:
★★★★☆
411 ratings

Save to Favorites
Add to Groups

Share Video
Post Video

Flag as
Inappropriate

Views: 49,345

Comments: 165

Favorited: 107 times

[more stats...](#)

Comments & Responses

Video Responses ([1 responses](#))

[Post a Video Response](#)

Added April 23, 2005

From [jawed](#)

[SUBSCRIBE](#)

to [jawed](#)



[DIRECTOR](#)

Provided By:

[jawed](#)

The first video on YouTube.

Category [Comedy](#)

Tags [zoo](#) [jawed](#) [elephant](#) [youtube](#)

URL <http://www.youtube.com/watch?v=jNQXAC9IVRw>

Embed `<object width="425" height="350"><param name="`

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Showing 1-20 of 26961

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[Me at the zoo](#)

00:18

From [jawed](#)

Views: 49130

<< Now Playing



[Elephant Eats Poop](#)

00:42

From [ChrisOnIveros](#)

Views: 30768



[elephant3](#)

00:44

Director Videos



[No Swearing!](#)

12:09

From [boh3m3](#)



[My dad singing tango](#)

03:03

From [Corinbaum](#)



[OLD SCHOOL TEASER](#)

01:21

From [taylorrobinson](#)



[The Crap Machine, The \\$4 Bill And](#)





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RIVALRY**

YOU FIGHT ! SHE EVOLVES !

**FREE
TO PLAY**



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- > [Multiplayer](#)

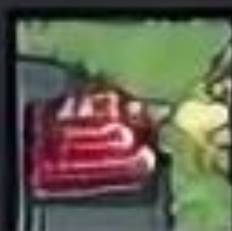


WEEKLY TOP FIVE



THE LAST VILLAGE

Survive 75 days and save the last indian village!



BATTALION: GHOSTS

Take control of the Australian forces in a campaign to crush Tucker and the Federation.



| 2006 – 2010

2006–2010

2006 — ActionScript 3.0, Новая виртуальная машина

2006 — 2010 - Расширение стандартной библиотеки Flash

2010 — Включение Flash Player в Chrome

```
var txtHello:TextField = new TextField();  
txtHello.text = "Hello World";  
addChild(txtHello);
```



Microsoft®
Silverlight®



Java**Fx**



BLOODY PEOPLE'S TOWN
POPULATION: 690/820

	Rafael	Bonjovi	AAAnquedetch	Ardie	Samantha	Raymond Paul
★ 19	★ 25	★ 28	★ 31	★ 20	★ 39	
♥ 14	♥ 22	♥ 23	♥ 20	♥ 20	♥ 22	



FREE2PLAY

Google learns to crawl Flash

June 30, 2008

Posted by [Ron Adler](#) and [Janis Stipins](#), Software Engineers

Google has been developing a new algorithm for indexing textual content in Flash files of all kinds, from Flash menus, buttons and banners, to self-contained Flash websites. Recently, we've improved the performance of this Flash indexing algorithm by integrating [Adobe's Flash Player technology](#).

In the past, web designers faced challenges if they chose to develop a site in Flash because the content they included was not indexable by search engines. They needed to make extra effort to ensure that their content was also presented in another way that search engines could find.

Now that we've launched our Flash indexing algorithm, web designers can expect improved visibility of their published Flash content, and you can expect to see better search results and snippets. There's more info on the [Webmaster Central blog](#) about the Searchable SWF integration.



Labels: [search](#)

| 2010 – 2017

2010 – 2017

Изменение долей браузеров

Появления новых веб-спецификаций

Закручивание гаек Flash

Thoughts on Flash

Apple has a long relationship with Adobe. In fact, we met Adobe's founders when they were in their proverbial garage. Apple was their first big customer, adopting their Postscript language for our new Laserwriter printer. Apple invested in Adobe and owned around 20% of the company for many years. The two companies worked closely together to pioneer desktop publishing and there were many good times. Since that golden era, the companies have grown apart. Apple went through its near death experience, and Adobe was drawn to the corporate market with their Acrobat products. Today the two companies still work together to serve their joint creative customers – Mac users buy around half of Adobe's Creative Suite products – but beyond that there are few joint interests.

I wanted to jot down some of our thoughts on Adobe's Flash products so that customers and critics may better understand why we do not allow Flash on iPhones, iPods and iPads. Adobe has characterized our decision as being primarily business driven – they say we want to protect our App Store – but in reality it is based on technology issues. Adobe claims that we are a closed system, and that Flash is open, but in fact the opposite is true. Let me explain.

First, there's "Open".

Adobe's Flash products are 100% proprietary. They are only available from Adobe, and Adobe has sole authority as to their future enhancement, pricing, etc. While Adobe's Flash products are widely available, this does not mean they are open, since they are controlled entirely by Adobe and available only from Adobe. By almost any definition, Flash is a closed system.



Engineering and Developers Blog

What's happening with engineering and developers at YouTube

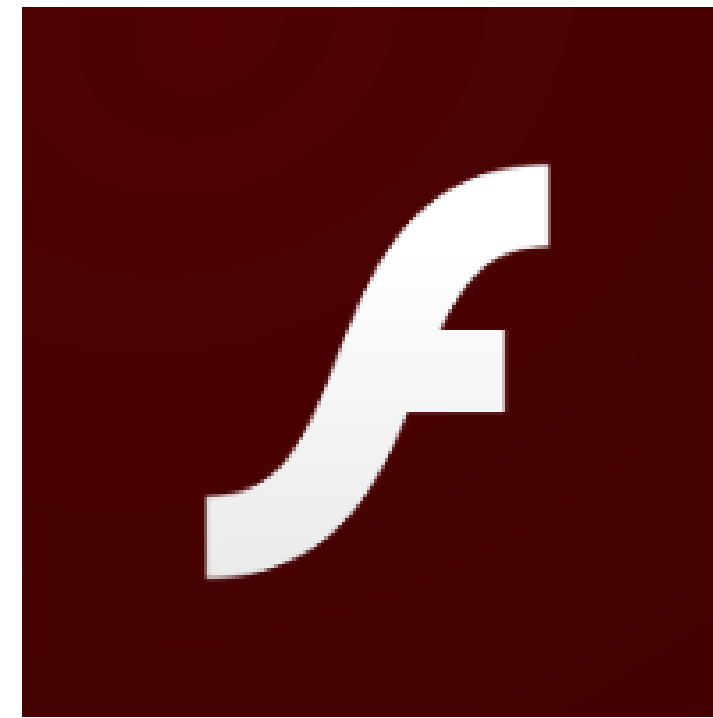
YouTube now defaults to HTML5 <video>

Tuesday, January 27, 2015

Four years ago, we wrote about YouTube's [early support for the HTML5 <video> tag](#) and how it performed compared to Flash. At the time, there were limitations that held it back from becoming our preferred platform for video delivery. Most critically, HTML5 lacked support for Adaptive Bitrate (ABR) that lets us show you more videos with less buffering.

Over the last four years, we've worked with browser vendors and the broader community to close those gaps, and now, YouTube uses HTML5 <video> by default in Chrome, IE 11, Safari 8 and in beta versions of Firefox.

Flash & The Future of Interactive Content



Adobe has long played a leadership role in advancing interactivity and creative content – from video, to games and more – on the web. Where we've seen a need to push content and interactivity forward, we've innovated to meet those needs. Where a format didn't exist, we invented one – such as with Flash and Shockwave. And over time, as the web evolved, these new formats were adopted by the community, in some cases formed the basis for open standards, and became an essential part of the web.

Возможности

Язык



ActionScript 3

Как и JavaScript, основан на ECMAScript

Транслируется компилятором в байткод

```
public class TimerExample {  
    private var _timer:Timer;  
    public function TimerExample() {  
        this._timer = new Timer(1000, 2);  
    }  
}
```

```
public class TimerExample {  
    private var _timer:Timer;  
    public function TimerExample() {  
        this._timer = new Timer(1000, 2);  
    }  
}
```

```
public class TimerExample {  
    private var _timer:Timer;  
    public function TimerExample() {  
        this._timer = new Timer(1000, 2);  
    }  
}
```

```
package {  
    import Flash.utils.Timer;  
    import Flash.events.TimerEvent;  
}
```



Roadmap

Projects

Coding

[Module Owners](#)[Hacking](#)[Get the Source](#)[Build It](#)

Testing

[Releases](#)[Nightly Builds](#)[Report A Problem](#)

Tools

[Bugzilla](#)

Tamarin Project

[Goals](#) | [Roadmap](#) | [Current Status](#) | [Team Members](#) | [Get Involved](#) | [FAQ](#) |
[Trademarks](#) | [Acknowledgments](#)

Goals

The goal of the "Tamarin" project is to implement a high-performance, open source implementation of the ECMAScript 4th edition (ES4) language specification. The Tamarin virtual machine will be used by Mozilla within SpiderMonkey, the core JavaScript engine embedded in Firefox®, and other products based on Mozilla technology. The code will continue to be used by Adobe as part of the ActionScript™ Virtual Machine within Adobe® Flash® Player.

The Tamarin virtual machine currently implements the ECMAScript 3rd edition language standard that is the basis for JavaScript, Adobe ActionScript, and Microsoft Jscript, plus some of the new language features proposed in the ECMAScript 4th edition specification. By working on an open source implementation of ES4 with the community, Adobe and Mozilla hope to accelerate the adoption of a standard language for creating engaging Web applications. We hope the Tamarin project accelerates the ability of developers to create and deliver richer, more interactive experiences that work across multiple platforms.

JavaScript 2.0: Evolving a Language for Evolving Systems

Waldemar Horwat
waldemar@acm.org

Abstract

*JavaScript 2.0 is the next major revision of the JavaScript language. Also known as ECMAScript Edition 4, it is being standardized by the ECMA organization. This paper summarizes the needs that drove the revision in the language and then describes some of the major new features of the language to meet those needs — support for API evolution, **classes**, packages, object protection, dynamic types, and scoping. JavaScript is a very widely used language, and evolving it presented many unique challenges as well as some opportunities. The emphasis is on the rationale, insights, and constraints that led to the features rather than trying to describe the complete language.*

Возможности

Работа с JavaScript





localStorage

A localStorage polyfill that makes the window object `localStorage` available in both modern and old browsers. This is done using a lot of different techniques, that enables persistent synchronous storage in one way or another.

How to use

To use this polyfill you simply have to include the `localStorage.js` file to your site. Furthermore you have to specify the URL of the `localStorage.swf` as the `swfURL` parameter to the file source. One example could be:

```
<script type="text/javascript"
      src="js/localStorage-debug.js?swfURL=js/localStorage.swf">
</script>
```

```
// HTML
```

```
<param name="FlashVars" value="name=str" />
```

```
// AS3
```

```
var params = root.loaderInfo.parameters;
```

```
var name: String = params.name as String;
```



```
// AS3
```

```
if (ExternalInterface.available) {  
    ExternalInterface.call("alert", "Hi!");  
}
```

```
// HTML
```

```
<param name="allowScriptAccess" value="always" />
```

```
// AS3
```

```
ExternalInterface.addCallback("callMe", callMe);
```

```
function callMe(val:String):void { }
```

```
// JS
```

```
document.getElementById("FlashElem").callMe("val");
```

Возможности

Данные




```
// AS3
```

```
var so:SharedObject = SharedObject.getLocal("key");
```

```
so.data.somedata = {a: "1"};
```

```
so.flush();
```

```
// JS
```

```
localStorage.setItem("myKey", "myValue");
```

```
var uploader:FileReference = new FileReference();  
  
/* ... */  
  
uploader.upload(uploadURL);
```

```
uploader.addEventListener("progress", handler);  
  
function progressHandler(e:ProgressEvent):void {  
    trace(e.bytesLoaded + "/" + e.bytesTotal);  
}
```



```
var xhr = new XMLHttpRequest();  
  
xhr.open("POST", "");  
  
xhr.send(formData);  
  
xhr.onprogress = (e) => {  
    console.log(e.loaded + " / " + e.total)  
}
```

```
// AS3
```

```
FileReferenceList.browse
```

```
// HTML
```

```
<input type=file multifile />
```

Множественная загрузка файлов на сервер

```
// AS3
```

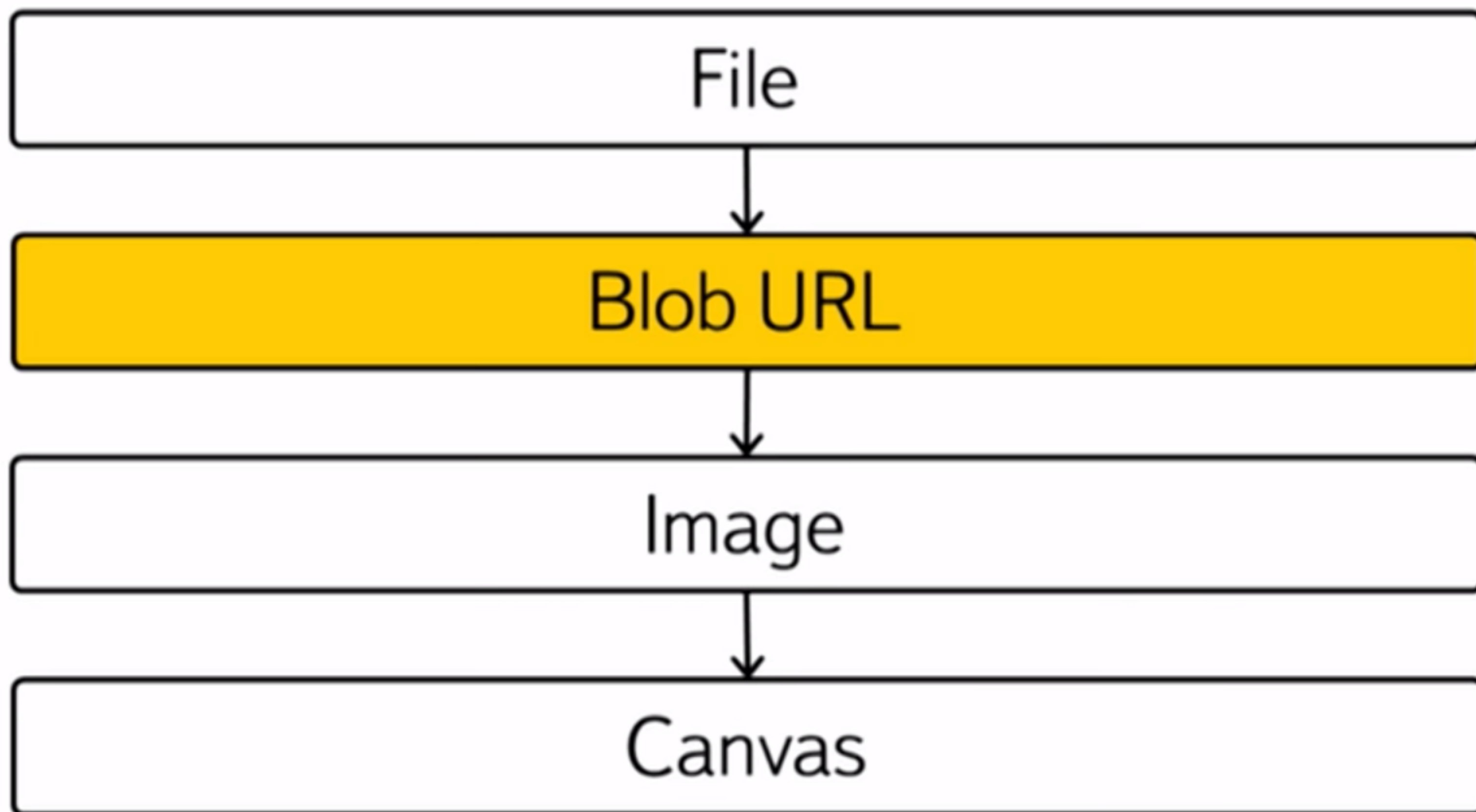
```
FileReference.download
```

```
// HTML
```

```
<a href="https://ya.ru" download>Ссылка</a>
```

Множественная загрузка файлов на сервер

Отрисовка файла на canvas



```
Clipboard.generalClipboard.setData(  
    ClipboardFormats.TEXT_FORMAT,  
    str  
);
```

Уязвимость в Adobe Flash, позволяющая перехватывать буфер обмена

🔖 [adobe](#), [flash](#), [безопасность](#)

Злоумышленники используют ловушки-баннеры для перехвата буфера обмена на клиентской стороне.

В своих атаках, которые направлены на Mac, Windows и Linux-пользователей с браузерами Firefox, IE и Safari, злоумышленники используют перехват буфера обмена и закрепляют в нем ссылку на ненастоящую антивирусную программу.

По словам потерпевших на нескольких интернет-форумах, атака производится с flash-баннеров, установленных на обычных "законных" сайтах — включая Newsweek, Digg и MSNBC.com.



0



0

```
navigator.clipboard.writeText("text").then(() => {  
    /* ... */  
});
```


Возможности

Медиа



Flash
Stage3D

vs

Canvas
SVG
WebGL



Нажмите Esc, чтобы выйти из полноэкранного режима



Это видео недоступно.

The Adobe Flash Player or an HTML5 supported browser is required for video playback.

[Get the latest Flash Player](#)

[Learn more about upgrading to an HTML5 browser](#)



Проигрывание видео во Flash

Собственный формат FLV

Потоковое вещание

Работа с веб-камерой

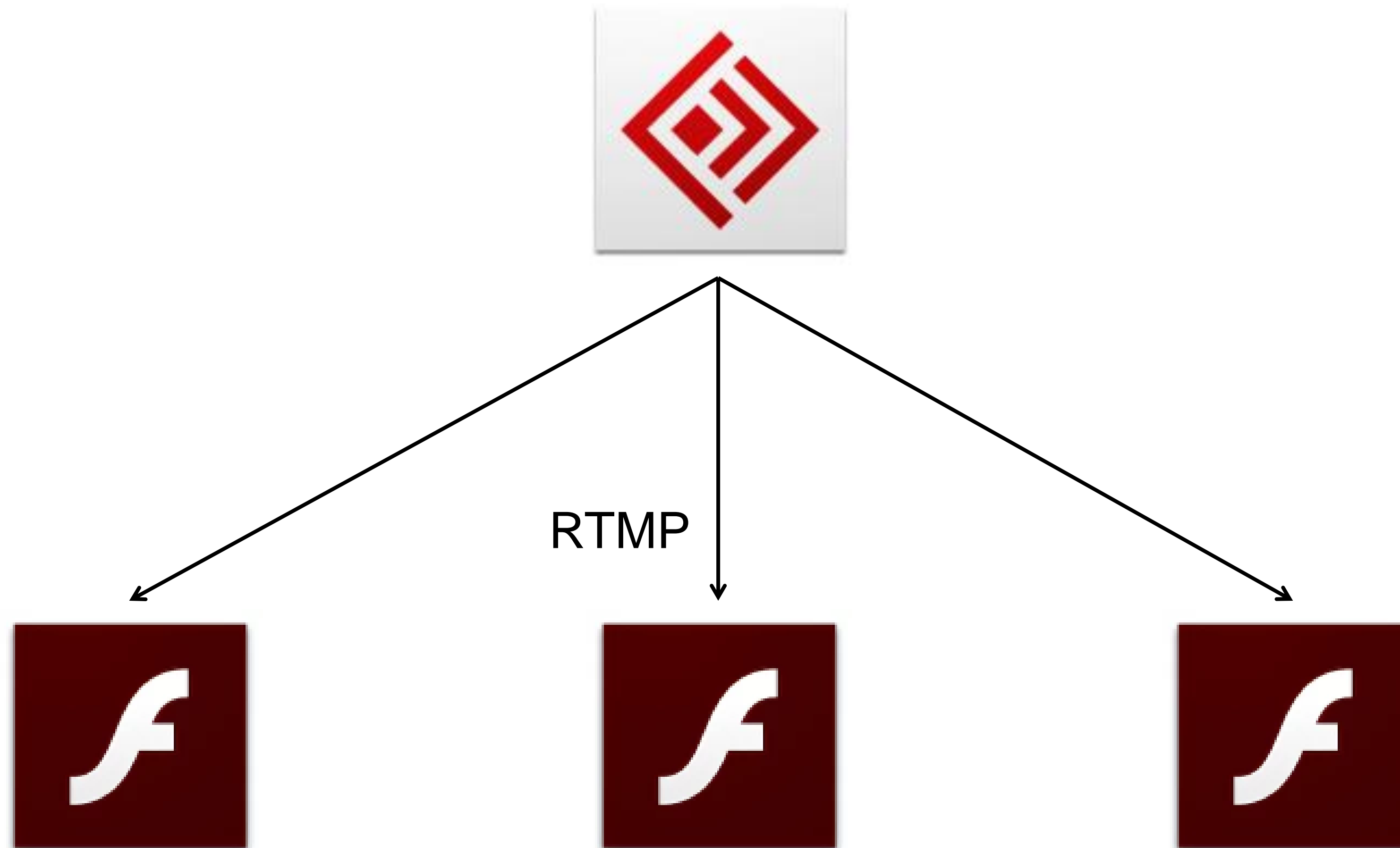

```
<video controls>  
  <source src="somevideo.webm" type="video/webm">  
  <source src="somevideo.mp4" type="video/mp4">  
</video>
```

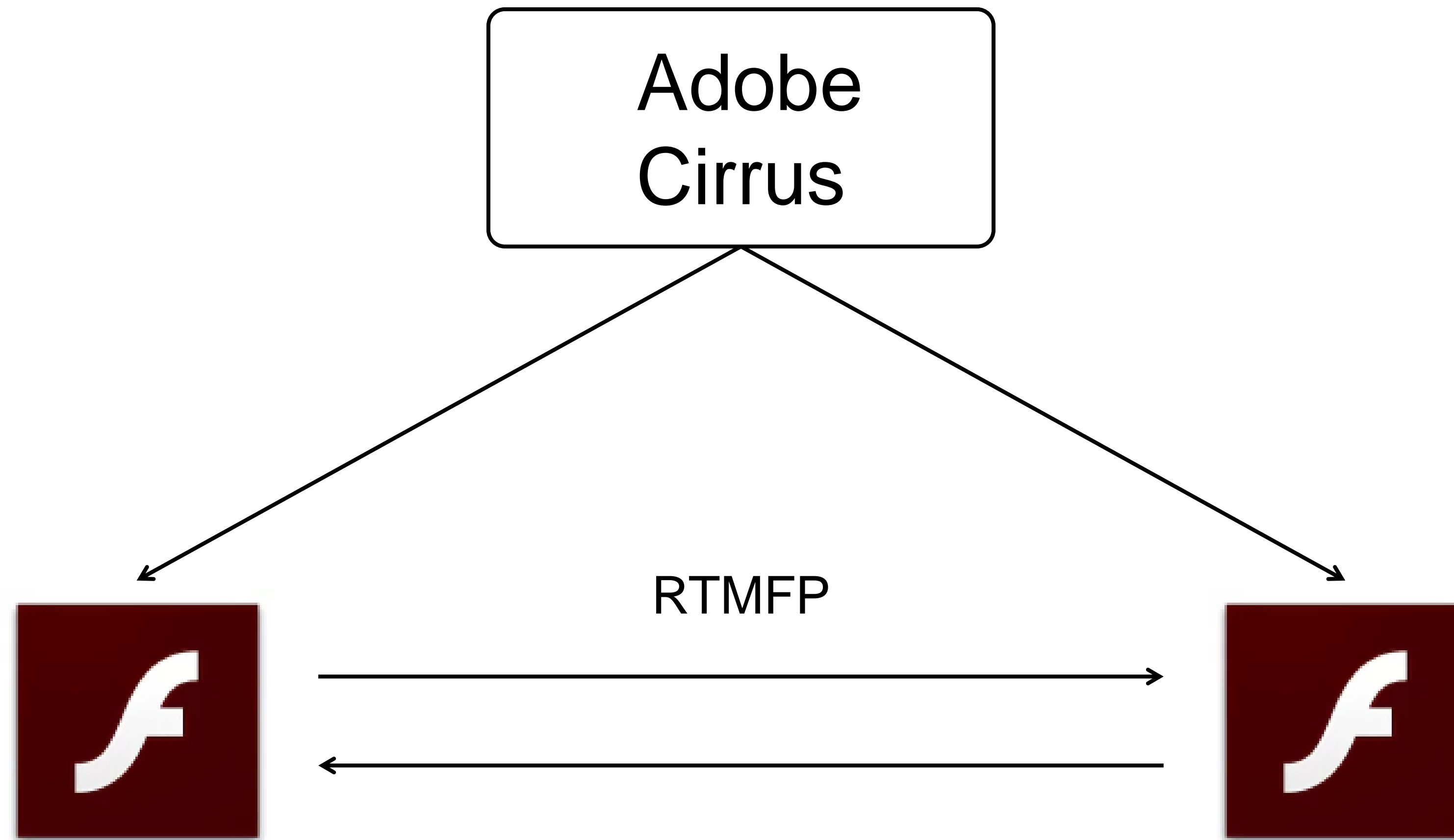
```
<audio controls>
```

```
  <source src="m.ogg" type="audio/ogg; codecs=vorbis">
```

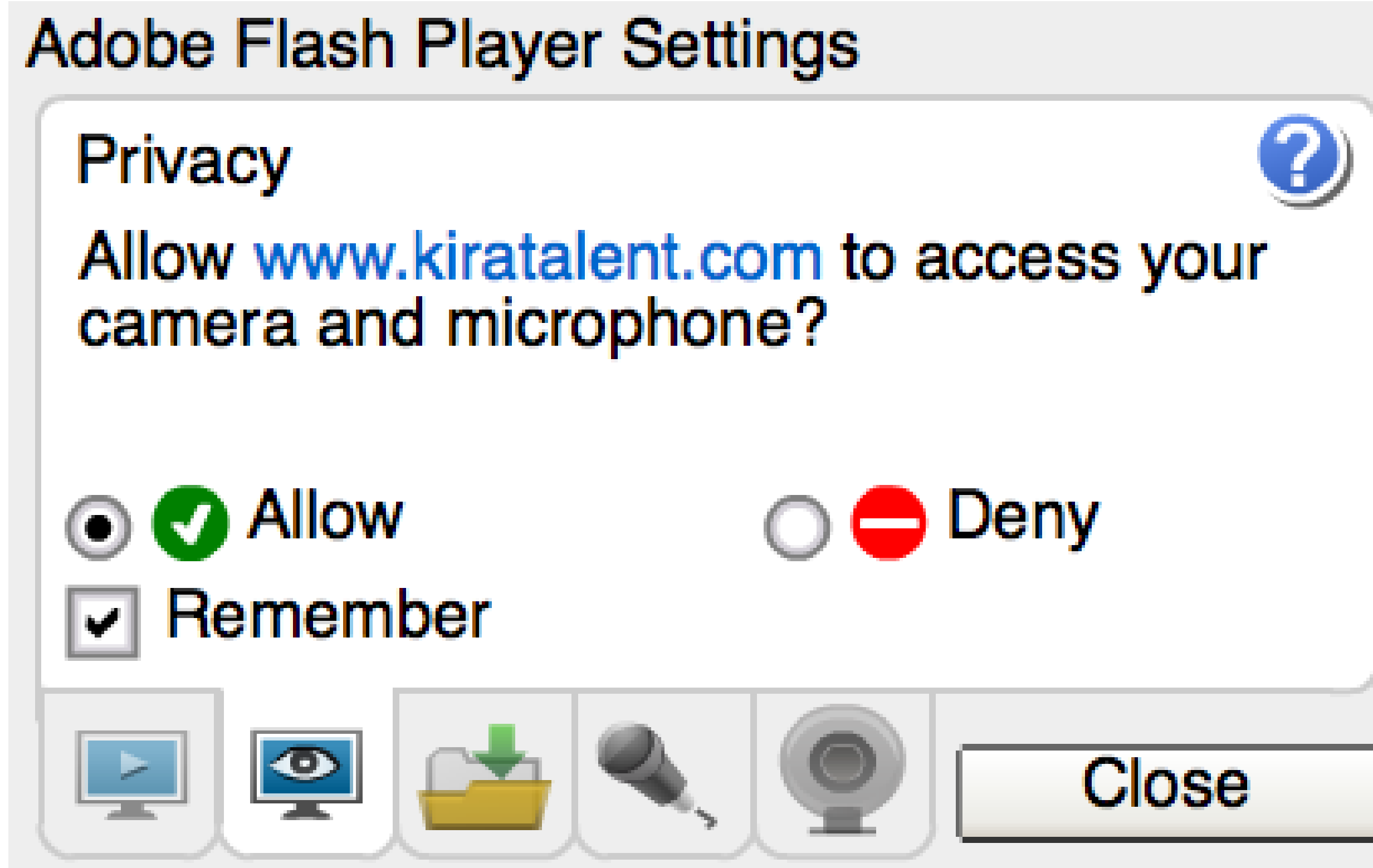
```
  <source src="m.mp3" type="audio/mpeg">
```

```
</audio>
```



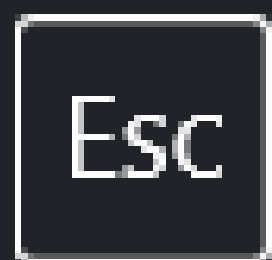


```
var camera:Camera = Camera.getCamera();  
  
if (camera != null) {  
    var video:Video = new Video(600, 400);  
    video.attachCamera(camera);  
    addChild(video);  
}
```

```
navigator.mediaDevices.getUserMedia(  
    audio: true,  
    video: { width: 1280, height: 720 }  
);
```

Чтобы выйти из полноэкранного режима, нажмите



```
// AS3
```

```
stage.displayState = StageDisplayState.FULL_SCREEN;
```

```
// JS
```

```
video.requestFullscreen();
```

```
<param name="allowFullScreen" value="true">
```


В лето 6750. великий князь ярослав послал сына своего Андрея в Новгород великий на помощь Александру против немцев. и победили немцев за Псковом на озере, и многих взяли в плен, и возвратился Андрей к своему отцу с честью.

WIKI.NOVEMBERBORN

sIFR Documentation & FAQ

Home Page

Please read [sIFR 3: A Look into the Future](#).

Welcome to the sIFR Documentation and FAQ wiki! You can find the following topics here:

[What is sIFR?](#)

An explanation of what sIFR exactly is, and how it works.

[How to use](#)

It's really easy, but read this anyway for the hidden depths ;-)

[Javascript Implementation](#)

The details of interacting with the sIFR script.

[Add-ons](#)

Some extra sIFR goodies.

[Tips and tricks](#)

sIFR on steroids.

[Examples](#)

Cool sites that use sIFR.

[Resources](#)

All you ever wanted to know about sIFR.

[FAQ](#)

The most Frequently Asked Questions about sIFR.

[Tests](#)

Testcases for sIFR.

[Changelog](#)

What's changed?

[Firefox Greasemonkey Scripts](#)

Gives you some tools to debug sIFR.

You can also check out the [forum](#), hosted by [TextDrive](#).

Updated on April 21, 2006 10:01 by [Anonymous Coward](#) (194.204.62.234)

sIFR Documentation & FAQ

sIFR lets you use your favorite font on your websites by cleverly working with Flash, JavaScript and CSS. Here you'll find it's documentation and the FAQ.

Leave a link to your implementation in the [Examples!](#)

Please donate

If you like sIFR, please consider making a donation so [Mark](#) can spend more time on it. Thank you.

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TEXTDRIVE



```
@font-face {  
    font-family: "Font";  
    src: url("http://ya.ru/font.ttf");  
}
```

Возможности

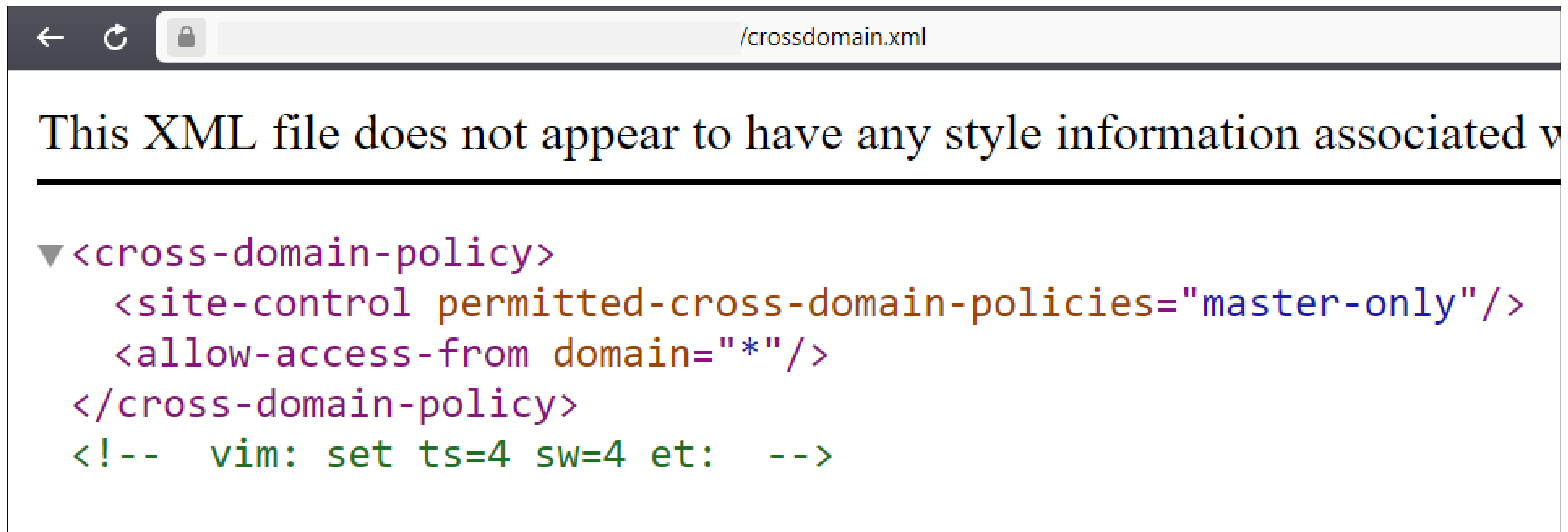
Работа с сетью



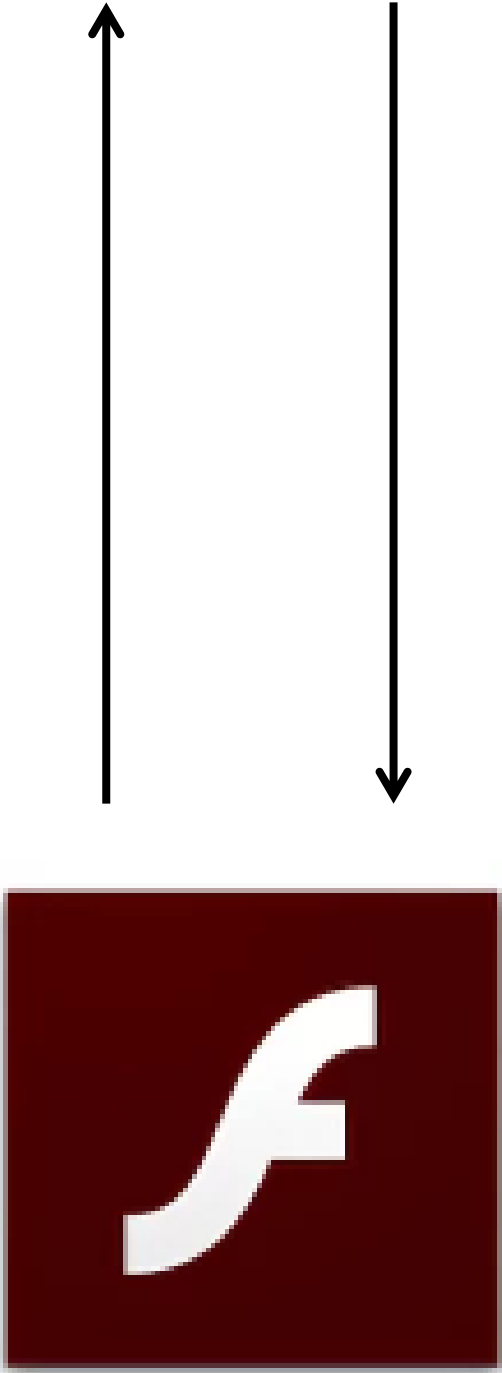
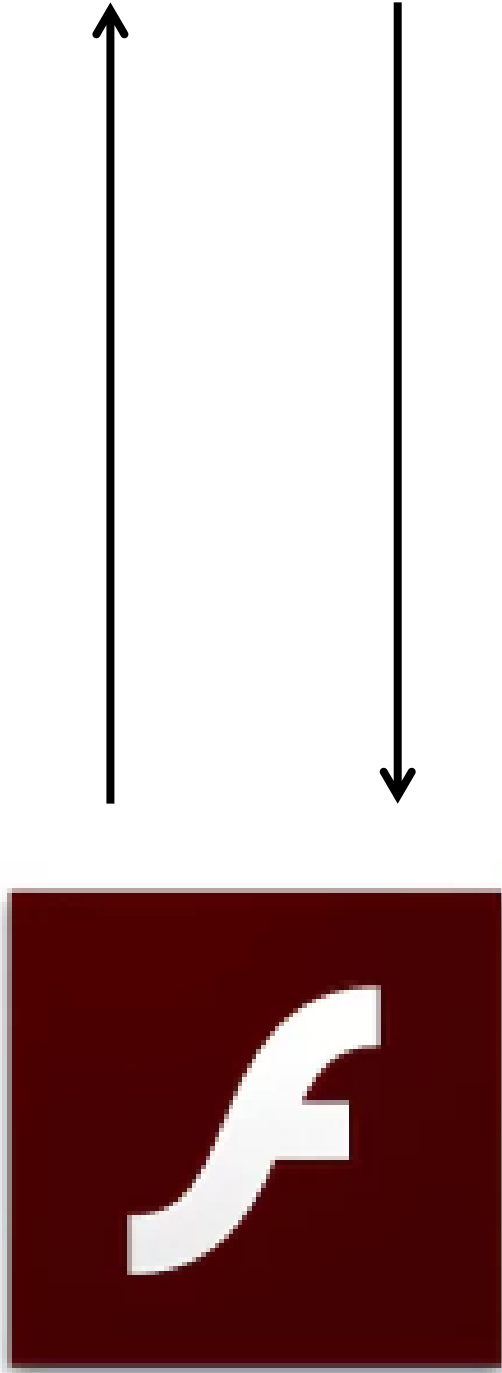
Работа с сетью

URLLoader — обычный HTTP-запрос

URLStream — работа с потоками данных



Socket
Server



```
var socket:Socket = new Socket();  
socket.addEventListener("socketData", this._handler);  
socket.connect("host", 80);
```

```
const socket = new WebSocket("host");  
socket.addEventListener("message", this._handler);
```

Где Flash сейчас?



PixiJS^{v4}

The HTML5 Creation Engine

Create beautiful digital content with the fastest, most flexible
2D WebGL renderer.

[DOWNLOAD](#)[GET STARTED](#)

Created by **goodboy**TM

Our Products

Browse through our amazing tools.

Language:

HTML5



Search Products...

SEARCH

Sort By:

Popular

New



Target



yoyo

GSAP

GSAP is a suite of tools for scripted, high-performance HTML5 animations that work in



Target



yoyo



TweenMax

TweenMax extends TweenLite, adding many useful (but non-essential) features like

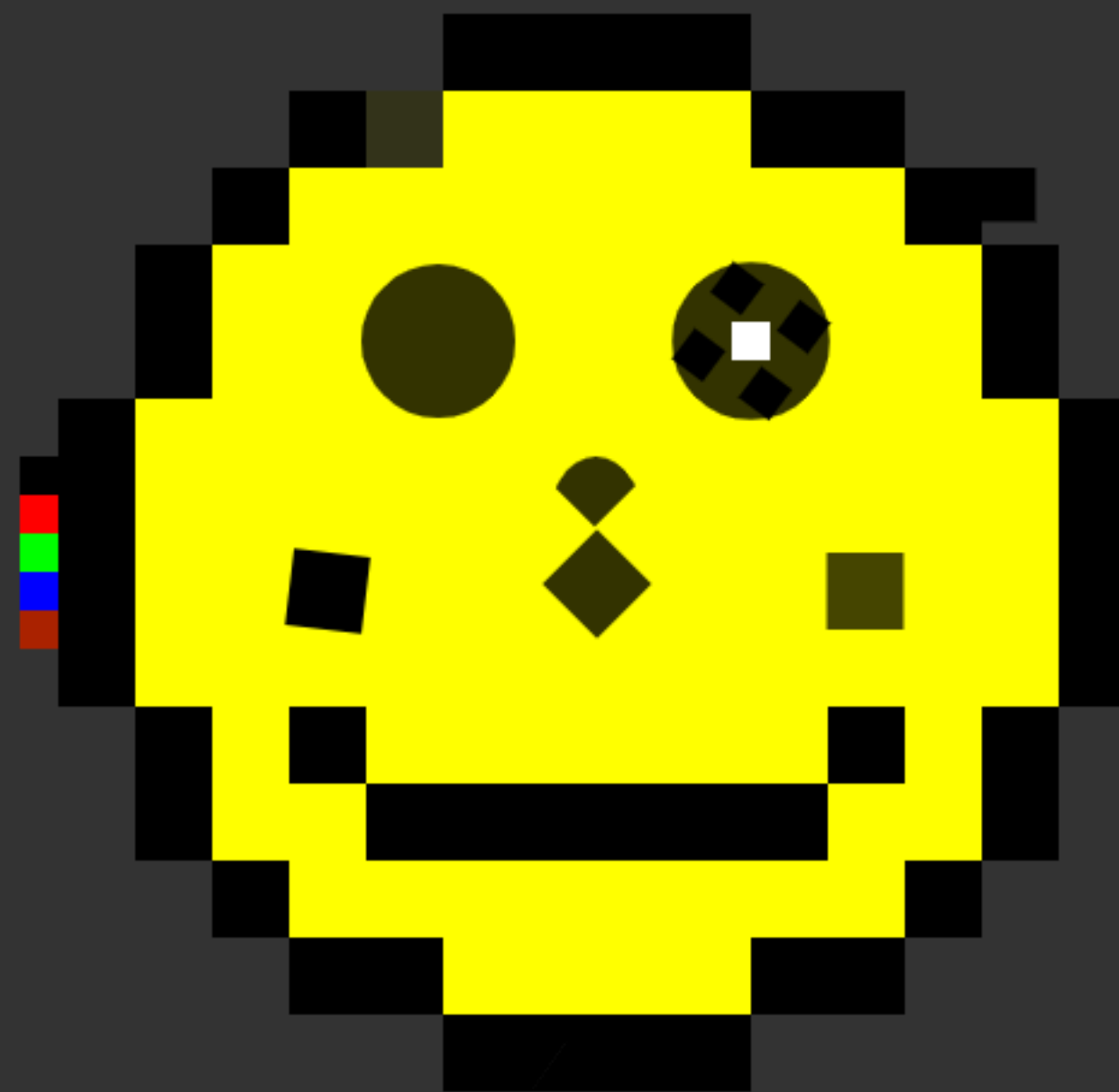


Target



TweenLite

TweenLite is the fast, lightweight, and flexible core of GSAP (GreenSock Animation



Shumway



Shumway is an HTML5 technology experiment that explores building a faithful and efficient renderer for the SWF file format without native code assistance.

Try it out!

Install the latest [Shumway](#) extension. (Read more about [configuring the extension](#)).

Examples (via Shumway Inspector):

- [Racing](#) (AS2) (as in live demo) and [Racing](#) (AS3)
- [Tiger](#) (AS3)
- [Pacman](#) (AS2) and [Pacman](#) (AS3)
- [Box2D](#) (AS3)
- [MP3 Player](#) (AS3) (requires MP3 playback support for HTML Audio)

Other demos

- [Santa Is Coming](#) by Ant.Karlov ([original](#))
- [Mushroomer](#) by Ant.Karlov ([original](#))
- [Canabalt](#) by Adam 'Atomic' ([original](#))

Want to get involved?

For more information about development, see [the developer wiki](#), or find us on the #shumway IRC channel ([irc.mozilla.org](#)).

Download

You can download the project with [Git](#) or [GitHub](#).

Тип платформы

HTML5 Canvas



HTML5 Canvas

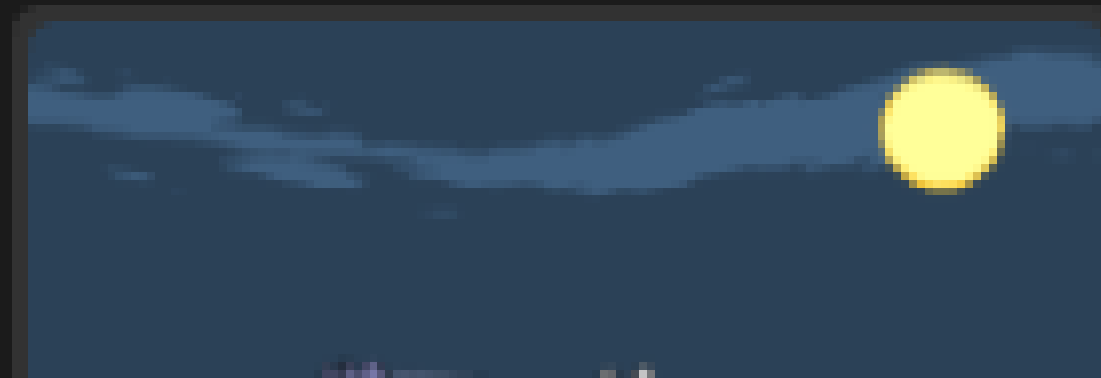
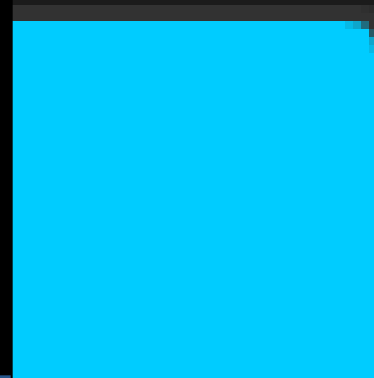


AIR for Desktop

AIR for Android

AIR for IOS

ActionScript 3.0



Вместо заключения



За что критиковали Flash?

Проблемы с безопасностью

Закрытость платформы

Низкая производительность

Почему пришла идея сделать доклад?

Flash умер

Но оставил большой след в истории веб

Спасибо за внимание!

Всеволод Шмыров

Руководитель группы разработки веб-сервисов



vsesh@yandex-team.ru



vsesh.me