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ColdFusion & Flash

EDINBURGH UNIVERSITY
26/27 MAY 2005



macromedia
COLDFUSION^{MX7}

SCOTCH ON THE ROCKS

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Philipp Cielen

- cielen.com – Frankfurt/
Germany
- 8 yrs ColdFusion and
Flash (V3.0)
- Co-author of "Flash MX
Professionell"
and "ColdFusion MX".
- Free journalist for leading
IT magazines
- MM Certified Professional
(Flash/CF)
- CFUG Manager





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Contents

- Technology Overview
- How to connect Flash to ColdFusion
- What technology to use for data transfer
- CFConnector.as Library
- Code Examples
- Tuning
- Security



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Goals of this presentation

- helping you with making the decision for the appropriate technology to use in your RIA projects
- getting you up to speed with code examples you can extend
- helping you avoid common mistakes often made by beginner Flash/RIA developers



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Flash is more than what meets the eye...

- graphic/web design tool
- video/vector graphic/bitmap animation tool
- sound
- graphing
- gui for RIAs
- standalone applications (w. extensions)
- multi-platform, mobile phones





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Example: Interactive Banner Ad





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Example: Interactive Banner Ad

ACTIVEO2 Shop
Powered by **MSQ**

Sie können direkt in diesem Banner bestellen...

SHOP WEBSITE

The banner features three bottles of ActiveO2 Sport drinks and a 'Powered by MSQ' logo.



| | | | | | |
|----------|---|---------------------|---|----------------------|---|
| ActiveO2 | 0 | ActiveO2 Sportapfel | 0 | ActiveO2 Sportcitrus | 0 |
|----------|---|---------------------|---|----------------------|---|

Um einen Artikel in den Warenkorb aufzunehmen, klicken Sie bitte oben auf das entsprechende Produkt. Die Zahl dahinter gibt die zu bestellende Menge an. Zum Bestellen der Artikel klicken Sie bitte rechts auf "Zur Kasse".

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| | | | | | |
|----------|---|---------------------|---|----------------------|---|
| ActiveO2 | 3 | ActiveO2 Sportapfel | 1 | ActiveO2 Sportcitrus | 0 |
|----------|---|---------------------|---|----------------------|---|

 Der 20er Tray 0,75l ActiveO2 Sport Apfel wartet auf Ihre Bestellung. Für 25.10 € (inkl. Versandkosten) liefern wir Ihnen innerhalb Deutschlands ins Haus...

[In Warenkorb](#)
[Löschen](#)
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| | | | | | |
|--|---|--------------------------------------|---------------------------|-----------------------|---------------------------|
| Ihre Bestellung: 3X ActiveO2: 67.8€ 1X ActiveO2 Sportapfel: 25.1€ | Zurück AGB Impressum | Philipp Gr. Bockenheimer 60313 | Cielen 54 Frankfurt | 069-29724620 Email | Bestellen |
| Gesamt: 92.9€ <small>Incl. Versand</small> | | | | | |



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Why ColdFusion and Flash?

- ColdFusion natively supports Flash Remoting - it's already included and installed by default
- easy generation of web services with CFCs
- more flexibility compared to `<cfform>` and even Flex



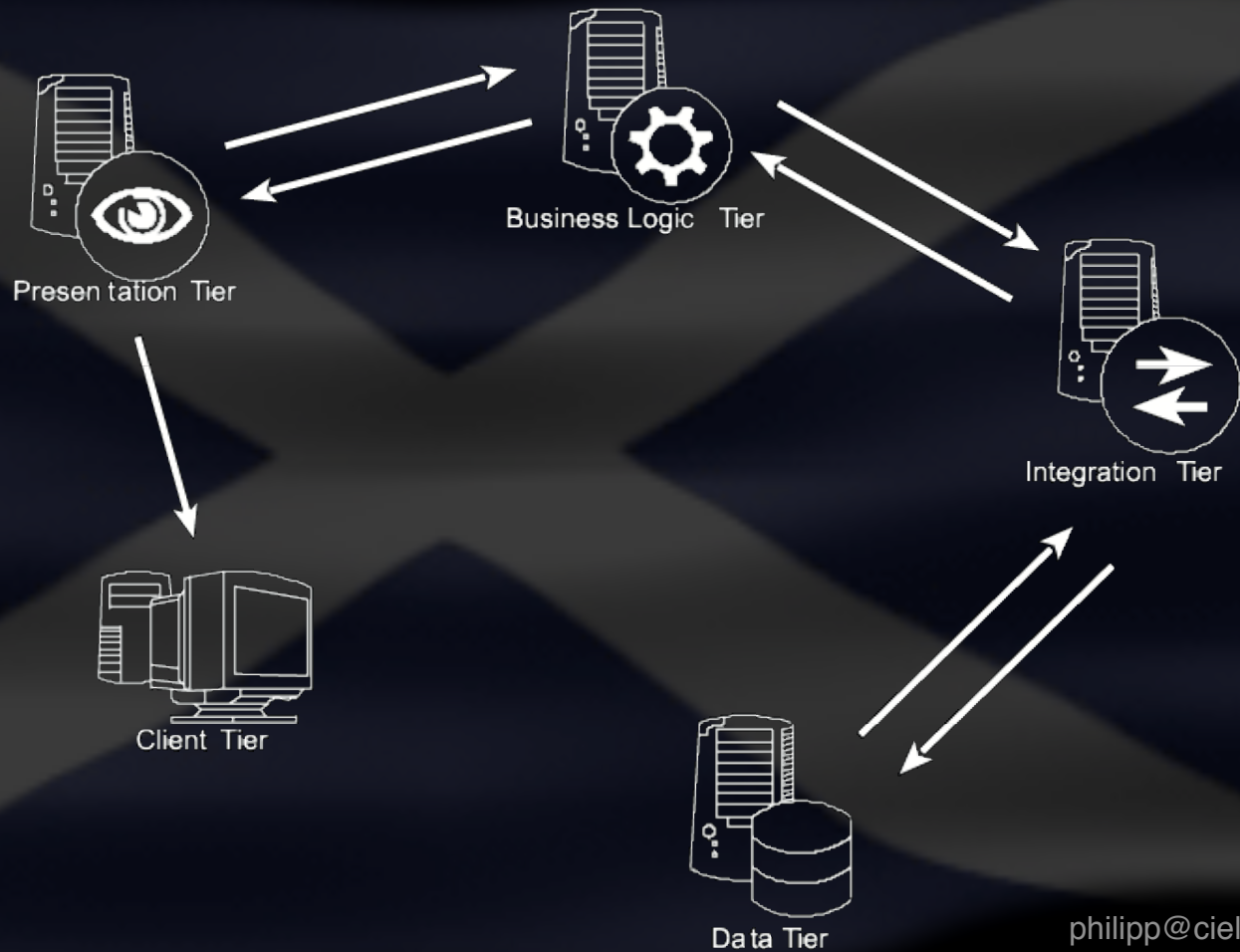
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A perfect couple

- separate client/presentation layer from business logic
- Model/View/Controller (MVC)
- separate development of HTML/Flash and other front ends possible
- use of built-in security framework
- code reuse





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How to connect Flash to ColdFusion

- variables passed in URL string
- variables set in embedding .cfm page
- URL encoded variables sent via dynamically generated text file
- XML/WDDX
- Flash Remoting
- Web Services



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Data transfer via Flash Remoting

- .cfm Files - setting variables in the Flash scope
- calling CFC methods within Flash just like local object methods

Data transfer via web services

- native support for SOAP in Flash MX 2004



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Flash Components

- Data-aware components able to work with ColdFusion recordset objects
- reusable code
- visual data binding



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Advantages of raw XML data transfer

- compatibility with existing applications
- flexibility
- less overhead



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Disadvantages of using raw XML data transfer

- manual programming of serialization/deserialization on both server and client
- data transfer via XML costs bandwidth
- changes in XML structure require reprogramming of client



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Advantages of using Flash Remoting

- ColdFusion components can be accessed in Flash like local ActionScript objects
- HTTP-based binary data transfer protocol AMF
- NetConnection Debugger - showing server connection status, remote method calls, return values and CF error messages



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Disadvantages of using Flash Remoting

- proprietary technology



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Advantages of using Web Services

- standards
- consumption of web services on remote web servers via local proxy possible.
- can easily switch backend



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Disadvantages of using web services

- performance (deserialization)
- bandwidth (raw text w. XML tags)



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What you need to get started

- Flash MX 2004 Updater
 - <http://www.macromedia.com/software/flash/downloads/updater/>
- Flash Remoting Components
 - <http://www.macromedia.com/software/flashremoting/downloads/components/>
- Flash Remoting Updater 1
- Flash Remoting on ColdFusion
 - test: <http://127.0.0.1/flashservices/gateway>
(does not work in CFMX 7!)



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Configuring Flash Remoting

- Check multiple domain installation in IIS
 - http://www.macromedia.com/support/flash_remoting/ts/documents/iis_gateway_connection.htm



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What's new in Flash Remoting for AS2?

- strict data typing
- case sensitivity
- different classes



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Edit /WEB-INF/gateway-config.xml

- `<show-stacktraces>` for development only, turn off on production servers
- `<whitelist>` tag for defining directories that use Flash remoting (defaults to *)
- `<lowercase-keys>` set to false for AS2 remoting components



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Quickstart: CFConnector.as

- connect CF and Flash easily
- simple and logic syntax for ColdFusion programmers
- free download
 - <http://www.cielen.net/coldflash/downloads>
- put into directory
 - Flash MX 2004/en/first run/include



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NetConnection Debugger

- Window/NetConnectionDebugger
- Can be run as a standalone application
 - http://cfmxplus.blogspot.com/2003_02_02_cfmplus_archive.html?90296849
- More info on the NetConnection Debugger
 - http://www.macromedia.com/support/flash_remoting/ts/documents/netconnectiondebugger.htm



directory.cfc

```
<cfcomponent>
  <cffunction name="readDirectory"
    access="remote"
    hint="reads a directory on the server and filters for .jpg images">

    <cfset myPath = getDirectoryFromPath(getCurrentTemplatePath
())&"images" />

    <cfdirectory directory="#myPath#"
      action="list"
      filter="*.jpg"
      name="picDirectory" />

    <cfreturn picDirectory />
  </cffunction>
</cfcomponent>
```



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images fla

```
#include "NetDebug.as"  
#include "CFConnector.as"
```

```
var myDir = new CFComponent("http://127.0.0.1/cfflash/directory.cfc");
```

```
myDir.readDirectory();
```

```
myDir.readDirectory_Result = function(myResult_rs){  
    for (idx=0;idx<myResult_rs.getLength();idx++){  
        trace(myResult_rs.getItemAt(a).name;  
    }  
}
```



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Performance

The image displays two overlapping Microsoft Internet Explorer browser windows. The left window, titled 'SELECT AG - Microsoft Internet Explorer', shows a website with a search filter for 'Filter, Innenraumluft'. The right window, titled 'xmlmenuNeu - Microsoft Internet Explorer', shows a tree view of car parts categories, with 'Keilriemen' selected. The right window also shows a search result for 'Keilriemen' and 'Keilrippenriemen'.

SELECT AG - Microsoft Internet Explorer

Adresse: <http://www.aktuelleplatz.de/infos/index.cfm?CFID=41193796&CFTOKEN=61062794>

Fahrzeugauswahl

| | |
|--------------|-----------------|
| Hersteller: | ALPINA |
| Modellreihe: | B10 (E39) |
| Typ: | B3 |
| Baujahr: | 01.97 |
| Leistung: | 205 kW / 280 PS |
| Hubraum: | 0300 cm |

Autoteile - Pilot

| | | | | | |
|---------------|-------------|-----------------|------------|-------|------|
| Auswahl nach: | Teilenummer | Schlüsselnummer | Hersteller | Werte | Home |
| Hersteller: | ALPINA | | | | |
| Modell: | B10 (E39) | | | | |

Filter, Innenraumluft

HENGST FILTER

| | |
|-----------------------|----------------|
| Filter, Innenraumluft | (Abnehmbar) |
| 924010 | |
| Filter, Innenraumluft | (Pollenfänger) |
| 924011 | |

xmlmenuNeu - Microsoft Internet Explorer

Adresse: <http://cielen.com/k3/>

Baugruppenauswahl

- Karosserie
- Motor
- Filter
- Riemtrieb
 - Keilriemen/-satz
 - Keilriemen
 - Keilrippenriemen/-satz
 - Keilrippenriemen
 - Spannrolle
 - Umlenkrolle
 - Spannarm
 - Zahnriemen/-satz
- Kraftstoffförderanlage
- Öle / Schmiermittel /
- Kraftstoffaufbereitung
- Kältemittel / Frostsch

keil

`../art_list.cfm?gen_art_nr=305&kfz_typ_id=1000&CFID=1&CFTOKEN=2`

Keilriemen
Keilrippenriemen



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Performance

- AS is interpreted on the client at runtime
- let the server do data processing & calc
- never transfer more data to the client than necessary (! select * ...)
- incrementally load data as needed
- do not overload Flash





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Security

- no .flas on the server
- use “protect from import”
- remove NetDebug.as library
- use roles for components
- use <cfqueryparam>, do not provide open database interfaces to Flash
- configure gateway-config.xml



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Security

- use https with Flash for sensitive data
- .swfs can be decompiled even if protected
- remember: setting access="remote" opens cfc methods to anyone



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Contact

Philipp Cielen

www.cielen.com/blog

philipp@cielen.com