



CFMX Hidden Gems

What's new? More than you may know

Charlie Arehart
Founder/CTO Systemmanage
carehart@systemmanage.com
SystemManage: *our practice makes you perfect*™

Agenda

- Quick Run-down of Popular New CFMX Features
- The Hidden Gems (20 detailed, 20 others listed)
- Comparing Pro and Enterprise
- Where to Learn More
- Q&A

The Big New Things

- Underlying J2EE standards-based foundation
- ColdFusion Components (CFC's)
- Integrated XML and Web Services
- Flash integration and remoting

Not as Big, But Promoted

- CFFUNCTION
- User Authentication (CFLOGIN)
- Sandbox/Resource Security
- Leveraging JSP Custom Tags (CFIMPORT)
- CFCHART
- Auto Compilation of Code into Java
- Extended Java Integration
- Unicode (internationalization)
- Improved debugging and tracing (CFTRACE)

The Hidden Gems

Cookies Set Before CFLOCATION No Longer Lost!

- In CF5, running `cookie_set.cfm` would yield no output
 - ◆ Cookies set before a CFLOCATION did not take
- In CFMX, this is no longer the case (not documented)
 - ◆ `Cookie_set.cfm`

```
<cfcookie name="test" value="bob">
<cflocation url="cookie_test.cfm">
```
 - ◆ `Cookie_test.cfm`

```
<cfif isdefined("cookie.test")>
  <cfoutput>#cookie.test#</cfoutput>
</cfif>
```
- In CFMX, outputs "bob", meaning the cookie was set

Pre-compiling CF Templates

- **Can precompile CF templates**
 - ◆ Could be useful to speed up first-time execution of templates
 - ◆ Can also use to perform syntax check
- **Save the code below as PreCompile.bat in C:**

```
set MX_INSTALL=d:\cfusionMX
%MX_INSTALL%\runtime\jre\bin\java -classpath
%MX_INSTALL%\lib\cfusion.jar coldfusion.tools.Compiler -
webroot %1 -webinf %MX_INSTALL%\wwwroot\WEB-INF %1
```
- **Change first line to reflect location of your CFMX installation**
- **Run with this, pointing to a directory, for example:**

```
C:\> PreCompile c:\cfusionMX\wwwroot\yourdir\
```
- **This version is different than earlier ones**
 - ◆ Solves problem of compiling code outside the default webroot
- **My October CFDJ article covers this subject in more detail**

Precompiling Code for Unix

```
#!/usr/bin/sh

MX_INSTALL=/opt/coldfusionmx
JAVA=$MX_INSTALL/jre/bin/java

$JAVA -classpath $MX_INSTALL/lib/cfusion.jar \
coldfusion.tools.Compiler -webroot $1 \
-webinf $MX_INSTALL/wwwroot/WEB-INF $1
```

Server-side Redirect

- **CFLOCATION does client-side redirect**
 - ◆ CFMX's forward, in GetPageContext, does server-side

```
<CFSCRIPT>
// transfer control to a CF page
GetPageContext().forward("someFile.cfm")
</CFSCRIPT>
```
- **See my June 2002 CFDJ article, "New Possibility in CFMX: Server-side Redirects"**
 - ◆ Available online at systemanage.com (articles)
- **Also, see my CF_FORWARD custom tag**
 - ◆ <http://devex.macromedia.com/developer/gallery/info.cfm?ID=C0DB78BB-617C-11D6-840300508B94F380&method=Full>
 - ◆ Encapsulates the CF code needed, adds some features

CFMX Tag Updater for CF Studio

- **Get access to tag insight, tag help, etc. for CFMX tags and updated attributes and functions**
- **http://www.macromedia.com/software/coldfusionstudio/productinfo/resources/tag_updaters/**
 - ◆ Download and unzip it to the root of your Studio installation
 - ◆ Be sure to choose "overwrite existing files"
- **Works for either Studio 4.x or 5**
- **Also, updated help at:**
 - ◆ http://download.macromedia.com/pub/homesite/updates/cfml_ref.zip
 - ◆ Instructions are for HomeSite+, but apply to Studio/HS

New Variable Scopes Available as Structures

- **We previously had session, application, form, URL, and other scopes available as structures**
 - ◆ Could use CFLOOP COLLECTION to loop over them, for instance
- **Now CFMX allows treatment of these that way as well:**
 - ◆ Variables
 - ◆ Server
 - ◆ Caller

New Variable Scopes Available as Structures (cont.)

```
<CFSET name="bob">

<cfdump var="#variables#">

<cfdump var="#server#">

<CFOUTPUT>
<CFLOOP collection="#server.os#" item="i">
  ## #server.os[i]#<br>
</CFLOOP>
</CFOUTPUT>
```

New Custom Tag features

- CFIMPORT tag, while intended for importing JSP tag libraries, can be used to group and use custom tags
- <CFIMPORT TAGLIB="pathname" PREFIX="chooseaname">
- Can then refer to custom tags (yes, even CF ones)
 - ◆ <chooseaname:tagname ...>
 - ◆ Where tagname previously would have been used as <CF_tagname> or <CFMODULE TEMPLATE="tagname.cfm">
- Allows grouping of tags together in a single dir
 - ◆ Also more easily refer to them in any relative dir (without CFMODULE)

"Server-side HTML", "Adaptive Tags"

- Using the previous CFIMPORT of CFML taglibs, can leave off PREFIX attribute or set to empty string
 - ◆ And then ANY non-CF tag on the page (HTML, WML, etc.) will be treated as a custom tag if one of the same name is defined in taglib
 - ◆ <FORM> would become call to form.cfm template
 - ◆ If one exists in the CFIMPORTed library
- Allows override of basic HTML tags to perform server-side pre-processing

CFSETTING REQUESTTIMEOUT attribute

- Previously could set timeout for a page by passing REQUESTTIMEOUT as URL parameter:
 - ◆ http://<somedomain>/sometemplate.cfm?requesttimeo ut=123
 - ◆ Would cause page to "timeout" as far as CF is concerned if it took longer than 123 seconds
 - ◆ Could be useful if you knew a given page was likely to exceed the default timeout (set in CF Admin)
 - ◆ Also, even if a user knew how to do it also, couldn't easily do it for form submission
- Now, can do on page-by-page basis programmatically
 - ◆ <CFSETTING REQUESTTIMEOUT="nn"> (seconds)
- Surprise: old approach is no longer valid. Ignored.

3 Topics Covered in 1 Article

- J2EE Session Variables
- URLSessionFormat() Function
- UUID for CFOKEN
 - ◆ covered in my August 2002 CFDJ article, "New Possibilities for Session and Client Variable Handling in CFMX"
 - ◆ Will discuss further tomorrow

Try/Catch in CFSCRIPT, UDFs

- Can now perform try/catch handling in CFSCRIPT
 - ◆ CFSCRIPT is at heart of User Defined Functions
 - ◆ So can now do so in UDFs
- No support yet for equivalent of CFTHROW
 - ◆ To throw error out of script or UDF to caller
- Also, catch is not listed inside try as with <CFCATCH>

Try/Catch in CFSCRIPT, UDFs

```
<cfscript>
function test() {
    name="bob";
    try{
        //note that myname is not defined. Throws error
        if (myname is "bob") {
            writoutput("ok");
        }
    }
    catch(any except){
        writeOutput("This is an error!");
    }
}
</cfscript>
<cfoutput>
#test()#
</cfoutput>
```

Evaluation within Expressions

■ Can now do evaluations within expressions, without evaluate()

```
<cfquery datasource="cfsnippets" name="get1">
  select * from parks
</cfquery>

<cfoutput>
  Time used: #cfquery.executiontime/1000# seconds
</cfoutput>
```

■ Prior to CFMX, would need an evaluate here

- ◆ Intentional change, according to MM reps
- ◆ Return to previous way of working

Miscellaneous

■ Examples in online CFML Reference are now housed at Macromedia.com (avoids security issues)

- ◆ But example apps still exist at [http://\[yourserver\]/cfdocs/exampleapps/index.cfm](http://[yourserver]/cfdocs/exampleapps/index.cfm)
- **Locking concerns in CFMX have changed**
 - ◆ <http://www.macromedia.com/v1/Handlers/index.cfm?ID=23021&Method=Full>
- **Running CFMX on Mac OS X**
 - ◆ See useful third part of 3-part series at http://www.oreillynet.com/pub/a/javascript/2002/08/08/coldfusion_three.html
- **Free CFMX hosting (non-production basis)**
 - ◆ <https://www.hostmysite.com/cfmh.ms>

Miscellaneous (cont.)

■ You should learn about Resource/Sandbox Security in CFMX

- ◆ Basic and Advanced Security of prior releases is gone
 - ◆ As is reliance on Netegrity SiteMinder
- ◆ Basic Security settings are NOT carried forward in upgrade to CFMX
 - ◆ CFREGISTRY, CFEXECUTE tags unrestricted by default
 - ◆ Much easier to configure and with mostly more functionality
 - ◆ Docs are confusing. See livedocs.macromedia.com for comments offered on many pages
- **See my 2 articles at new Macromedia Security Developer Center to learn about new security features**
 - ◆ ColdFusion Security, Part One: Understanding Sandbox/Resource Security
 - ◆ ColdFusion Security, Part Two: Sandbox/Resource Basics

Miscellaneous (cont.)

■ Can view information about underlying JVM

```
<cfset sys = createObject("Java", "Java.lang.System")>
<cfoutput>
  JVM name: #sys.getProperty("Java.vm.name")#<br>
  JVM version (build): #sys.getProperty("Java.version")#
  (#sys.getProperty("Java.vm.version")#)<br>
  JVM class path: #sys.getProperty("Java.class.path")#<br>
</cfoutput>
```

- ◆ Name of class being referenced (ie, Java.lang.System) is case-sensitive
 - ◆ Reference to methods within CFML (getProperty above) are not
- **See the Java 2 Library documentation for more information**
 - ◆ <http://java.sun.com/j2se/1.3/docs/api/index.html>

Miscellaneous (cont.)

■ Can indicate alternative directory for templates outside of normal [cfusionmx_home]wwwroot

- ◆ Add an additional line like the following to [cfusionmx_home]wwwroot\WEB-INF\run-web.xml

```
<virtual-mapping>
<resource-path>/altptr/*</resource-path>
<system-path>C:/altidir/</system-path>
</virtual-mapping>
```
- ◆ Where "altptr" is a prefix to point to code in "altidir" as: [http://\[yourserver\]/altptr/template.cfm](http://[yourserver]/altptr/template.cfm)
- **See "Configuring the Macromedia ColdFusion MX built-in web server" for more:**
 - ◆ http://www.macromedia.com/support/coldfusion/adv_development/config_builtin_webserver/

Miscellaneous (cont.)

■ Two Security Bulletins announced so far

- ◆ Patch available for default Missing Template page in ColdFusion MX
 - ◆ <http://www.macromedia.com/v1/Handlers/index.cfm?ID=23047>
- ◆ ColdFusion MX Enterprise Edition's JSP™ functionality should be disabled in shared, hosted environments
 - ◆ <http://www.macromedia.com/v1/Handlers/index.cfm?ID=23046>
- **CF's admin settings are now saved in [cfusion_home]\lib as xml files**
 - ◆ neo-runtime.xml, neo-query.xml, neo-verity.xml, etc.
 - ◆ Rather than in the registry, as previously
- **CFBugHunt.org**
 - ◆ Public (unofficial) repository of CFMX bugs

Miscellaneous (cont.)

- **Restarting the CFMX service in Windows**
 - ◆ The "start" and "restart" buttons in Services may timeout trying to start. Instead, consider creating shortcuts to do:
 - ◆ net stop "ColdFusion MX Application Server"
 - ◆ net start "ColdFusion MX Application Server"
- **Admin "Logging Settings" page now allows setting of "max file size" for log files**
 - ◆ Will archive files once they reach that size
 - ◆ Default is 5 meg
 - ◆ "max num of archives" will cause deletion of oldest when max is reached
 - ◆ Default is 10
 - ◆ Means that you may be losing logs if not paying attention

Variety of Other Changes

- **See docs and release notes for more:**
 - ◆ Several Query of Query enhancements
 - ◆ Several CFLDAP changes
 - ◆ CFMAIL spooling option changes
 - ◆ Sort order in ListSort, ArraySort
 - ◆ Date processing functions have short, medium, long formats
 - ◆ Localization functions now follow Java standard rules
 - ◆ Several Regular Expression support changes
 - ◆ CFTHROW can now throw an OBJECT
 - ◆ CFLOG now always writes thread, date, and time
 - ◆ CFHTTP reading text file in as query, new FIRSTROWASHEADERS attribute

Variety of Other Changes

- **Still more:**
 - ◆ Creating "java stubs" for use with COM objects
 - ◆ New commenting flexibility
 - ◆ Pseudo-constructors in CFCs
 - ◆ Useful getPageContext function provides access to underlying J2EE PageContext object
 - ◆ Interesting server.ColdFusion.ServiceFactory object
 - ◆ Admin "Server Reports" feature has gone missing
- ◆ Enabling dynamic class reloading
- ◆ Saving java source code from compilation of CF templates
- ◆ Turning off the Admin password without entering Admin
 - ◆ These last three are currently covered in my blog: cfmxplus.blogspot.com

Pro vs. Enterprise

- **New CFMX Features not in Professional**
 - ◆ Enhanced Java integration
 - ◆ JSP custom tags, support of JSPs and servlets, sharing data between them and CF templates
 - ◆ Server sandbox security
 - ◆ Instead have Resource Security, covering all apps
- **Features that Do Remain in Pro**
 - ◆ J2EE Session variables (enabled in Admin)
 - ◆ Chart caching (set in Admin)

Getting Started Resources

- **Getting Started Resources at Macromedia**
 - ◆ http://www.macromedia.com/software/coldfusion/resources/get_started/
- **Getting Started Resources Installed on Server**
 - ◆ <http://localhost:8500/CFIDE/administrator/welcome.cfm>
 - ◆ Offers 4 groupings of new features by developer type
 - ◆ Links to example applications
- **Examples installed on server**
 - ◆ [http://\[yourserver\]/cfdocs/exampleapps/index.cfm](http://[yourserver]/cfdocs/exampleapps/index.cfm)
- **Interactive Feature Tour at Macromedia**
 - ◆ http://www.macromedia.com/software/coldfusion/productinfo/features/flas_h_feature_tour/

Upgrade Docs/Resources

- **Upgrade Guide**
 - ◆ <http://www.macromedia.com/software/coldfusion/productinfo/upgrade/>
 - ◆ Lists top 10 features, pricing info
- **Upgrade FAQ**
 - ◆ <http://www.macromedia.com/software/coldfusion/productinfo/faq/upgrade/>
- **Feature Comparison Grid (CF5 vs CFMX)**
 - ◆ <http://www.macromedia.com/software/coldfusion/productinfo/upgrade/comparison.html>
- **Feature Comparison Grid (Detailed, and Pro vs Ent)**
 - ◆ http://www.macromedia.com/software/coldfusion/whitepapers/pdf/ColdFusionMXFeatureGrid_03.pdf

New Docs

- **4 standard CFML documentation books updated**
 - ◆ Installing ColdFusion MX
 - ◆ Administering ColdFusion MX
 - ◆ CFML Reference
 - ◆ Developing ColdFusion MX Applications with CFML
- **5 new books:**
 - ◆ Getting Started Building ColdFusion MX Applications
 - ◆ Migrating CF5 Applications
 - ◆ Using Server-Side ActionScript in ColdFusion MX
 - ◆ Using ClusterCATS
 - ◆ Working with Verity Tools

The MM Book on CFMX

- **“Developing ColdFusion MX Applications with CFML”**
 - ◆ User Guide that many never see
 - ◆ Redesigned, now 900 printed pages!
 - ◆ Of course, several chapters cover updated features
 - ◆ Some chapters discuss old subjects in new and better ways such as ...

The MM Book on CFMX (cont.)

- **Several new chapters such as:**
 - ◆ Chapter 10 Writing and Calling User-Defined Functions
 - ◆ Chapter 11 Building and Using ColdFusion Components
 - ◆ Chapter 13 Designing and Optimizing a ColdFusion Application
 - ◆ Chapter 17 Developing Globalized Applications
 - ◆ Chapter 22 Using Query of Queries
 - ◆ Chapter 29 Using the Flash Remoting Service
 - ◆ Chapter 30 Using XML and WDDX
 - ◆ Chapter 31 Using Web Services
 - ◆ Chapter 32 Integrating J2EE and Java Elements in CFML Applications

Where to Find Documentation

- **Available on CFMX server**
 - ◆ At [yourserver]\cfdocs\dochome.htm
 - ◆ Also, now in Start>Programs>CFMX
 - ◆ Links to docs and getting started have returned (links were missing in CF 5)
 - ◆ Note new Java-based search feature in docs
- **PDFs of all docs downloadable at:**
<http://www.macromedia.com/support/coldfusion/documentation.html>
- **Also livedocs.macromedia.com**
 - ◆ Now offers CFMX docs as well as CF5 and others
- **Purchase from Macromedia for \$50**
 - ◆ <http://dynamic.macromedia.com/bin/MM/store/US/product.jsp?category=/BooksVideos/Documentation/ColdFusionServer&type=FULL>

Beyond the Docs

- **Doc update:**
<http://www.macromedia.com/v1/Handlers/index.cfm?ID=22811>
- **Doc additions:**
<http://www.macromedia.com/v1/handlers/index.cfm?id=22993>
- **Release notes:**
http://www.macromedia.com/support/coldfusion/releasenotes/mx/releasenotes_mx.html
 - ◆ Link offered within Administrator, though none in start>programs nor at site under resources and notes
- **And don't miss DesDev site for examples, articles**
<http://www.macromedia.com/desdev/mx/coldfusion/>
- **And the example site:**
<http://examples.macromedia.com/coldfusion/examples/>

My Resources

- **Currently 5 CFMX-related articles in ColdFusion Developers Journal**
 - ◆ Precompiling CFMX Templates (Oct 2002)
 - ◆ CFMX Hidden Gems (Sept 2002)
 - ◆ New Possibilities for Session and Client Variable Handling in CFMX (August 2002)
 - ◆ New Possibility in CFMX: Server-side Redirects (June 2002)
 - ◆ Using JSP Custom Tags in CFMX: What, Why, and How (May 2002)
- **2 articles at new Macromedia Security Developer Center**
 - ◆ ColdFusion Security, Part One: Understanding Sandbox/Resource Security
 - ◆ ColdFusion Security, Part Two: Sandbox/Resource Basics
- **Each available online at www.systemanage.com (articles)**
- **Also, see my blog at cfmxplus.blogspot.com**

My Resources (cont.)

- **Planned CFMX-oriented One Day seminars:**
 - ◆ CFMX Introduction: Opportunities and Challenges
 - ◆ Getting Started with XML and Web Services in CFMX
 - ◆ DreamWeaver MX For CF/Studio Users
 - ◆ Understanding Java/J2EE Integration For Those With No Java Experience
 - ◆ Implementing Application and Developer Security in CFMX
- **These are in addition to 14 others on other CF topics**
- **More info at www.systemanage.com (Seminars)**

Summary

- **There are many more new features, aspects of popular features**
 - ◆ Than are being discussed in common talks and articles
- **Best solution is to read all manuals**
 - ◆ And release notes, doc updates, etc.
- **Equally important, if not more**
 - ◆ Try out the installed example apps, examples at DesDev Center, examples in docs, own examples
- **Share your experiences with others**
 - ◆ Consider writing your own articles for DesDev, CFDJ
- **Hope this has all been helpful and motivating**

Contact Information

- **Happy to answer questions related to talk**
 - ◆ Email: carehart@systemanage.com
 - ◆ Phone: 301 604 8399
 - ◆ Web: www.systemanage.com
- **Also available for**
 - ◆ Training (custom or pre-written)
 - ◆ CF, DB, JRun/J2EE, Javascript, wireless, and more
 - ◆ Consulting (very short-term)
 - ◆ best practices, architecture, setup
 - ◆ Developer Group Mentoring