

WHAT' NEW IN CF ZEUS

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OUTLINE

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- Where to learn more

INTRODUCTION

- Zeus is codename for next version of CF (not yet called CF10, if it will be)
- This talk is not discussing ALL that is new/updated in Zeus!
 - Only the things that Adobe has publicly announced
- They've had at least 5 Zeus talks in recent months
 - They did not list all new features in each
 - This talk tries to synthesize those into one: over 50 new features!
- To be clear, I do not work for Adobe
 - But I am an ACP and obviously a big fan
- No need to write details of what I show here
 - Presentation is online at my site

SOME CHALLENGES

- Challenge 1: non-Adobe presenters can't show live demos
 - Still, even just "talking" about topics, showing some code, is enlightening!
- Challenge 2: with over 50 new features to show, no time to show source for each
 - Will show some. Still, helpful to get even just an overview of each feature
 - Good news: there are 4 recorded Adobe presentations that DO show live demos and source code
- Challenge 3: being an ACP on prerelease, I need to NOT share what's not public
- As always: this is in prerelease, and subject to change before final release

ABOUT CHARLIE AREHART

Independent Consultant

- 15 yrs CF experience (29 in Enterprise IT)
- Member, Adobe Community Professionals
- Certified Adv CF Developer, Instructor
- Frequent speaker to groups/conf's worldwide
- Run the 2600+member Online ColdFusion Meetup (coldfusionmeetup.com)
- Living in Alpharetta, Georgia (Atlanta)

Web home at www.carehart.org

- Host ~300 blog entries, 80+ articles, ~100 presentations
- UGTV: recordings of 600+ presentations by ~300 speakers
- CF411.com - 1700+ tools/resources, 150+ categories
- Hosting courtesy of EdgeWeb Hosting
- Consulting: available for CF troubleshooting, tuning; training
 - Remote or on-site

WHAT'S REMOVED IN ZEUS

- While CF typically tries to remain backwardly compatible
 - Sometimes it really is time to move on!
- Tomcat replacing JRun as underlying Java container
 - Much more modern container. More robust, lightweight, faster.
 - Many benefits, extended features of Tomcat could be leveraged
 - Multiserver form of deployment still supported
- Verity will finally be removed (in favor of Solr, added in CF9)
 - Also removed: the document limits Verity imposed

WHAT'S NEW: ADMIN ENHANCEMENTS

- Automated Hotfix Mechanism
 - View available updates in the administrator / notification
 - Download updates
 - One-click install, even to multiple instances
 - Supports normal and security hotfixes
 - Also Admin API and Server Manager updates to support this
 - Installer for 8, 8.0.1, 9, 9.0.1 (w/o notification)
- Clear template cache for given folder
- Clear query cache
- Restricting Admin Access by IP Address
- CF Admin secure by default in various ways

WHAT'S NEW: SECURITY

- XSS Protection (cross-site scripting: putting code on page via input fields)
 - New functions to check and clean input strings (HTML, CSS, Javascript, URL)
 - Based on ESAPI from OWASP
- CSRF Protection (cross-site request forgery: causing unexpected authorized acts)
 - New functions to generate, verify tokens
- Session Improvements
 - New control over session cookie properties (timeout, security features)
 - New sessioninvalidate() and sessionrotate() functions
- Verification of Mime type on CFFILE uploads (optional strict attribute)
 - Also new fileGetMimeType to check type for given file or object
- Also: CRLF ("http response splitting") protection, Hash/HMAC support, cflogin strengthened, other services improved, protections tightened
- Dedicated Security Czar, QA engineer; Enhanced support from ASSET (Adobe Secure Software Engineering Team)

WHAT'S NEW: SCHEDULED TASKS

- Powered by Quartz: <http://www.quartz-scheduler.org/>
- Supports task chaining (task interdependencies)
- Attaching listeners to tasks
- Setting priorities for tasks
- Cron-style format for scheduling
- Ability to group tasks (assign to a group name) for management of grouped tasks
- Better error handling (refire, pause, invoke exception handler, etc)
- And more

WHAT'S NEW: HTML5/MOBILE

- HTML 5 video playback capability: CFMEDIAPLAYER
 - Any format supported by HTML 5, and Flash
- Geolocation support (option) for CFMAP for HTML5 browsers
- CFINPUT: supports HTML5 input types
 - <http://dev.w3.org/html5/spec/Overview.html#the-input-element>
- Graceful degradation built-into these new features (for non-HTML 5 browsers)
- Is that all?

WHAT'S NEW: HTML5/MOBILE (CONT)

- Detection of browser capabilities (very "in-flux")
 - `this.deviceInfo=true`; or `getDeviceInfo()`
 - `device_name`, `device_os`, `device_os_version`, `mobile_browser`, `mobile_browser_version`, `model_extra_info`, `model_name`
 - `ajax_support_javascript`, `cookie_support`, `full_flash_support`, `https_support`
 - `is_tablet`, `is_wireless_device`
 - `physical_screen_height`, `physical_screen_width`, `pointing_method`, `streaming_preferred_protocol`
- Web sockets support
 - Bidirectional communication from server to client
 - Real-time, not polling
 - Client-to-server, one client to all others; server to all clients, and so on
 - Enabled via `<cfwebsocket>`, listeners

WHAT DO YOU THINK SO FAR?

- Judging by many comments on the web, some would be happy if that was all
 - Of course, some expect more!
- We're only half-way through
 - In terms of count of new/changed features
 - And remember again, this isn't even all that is in Zeus. Just what's public so far

WHAT'S NEW: LANGUAGE ENHANCEMENTS

- For-In support for query results

```
<cfquery name="arts" datasource="cfartgallery">
select * from art
</cfquery>
<!-- or more likely, call CFC method, etc. that returns query --->
<cfscript>
for(row in arts) {
writeoutput(arts.currentrow & " :" & row["name"] & <br>");}
</cfscript>
```

- CFFILE support of output content in tag body

```
<cffile action="write" file="#filename#">
some tag body
</cffile>
```

- As alternative to older output attribute

WHAT'S NEW: LANGUAGE ENHANCEMENTS

- Closures
 - Similar to UDFs, more like Java inner classes
 - For more, see Awdhesh's NCDevCon talk, "What's Next in Zeus"
- ApplicationGetMetaData()
 - Returns all settings specified in application cfc/cfm
 - Or defaults, as set in CF admin
- CALLstack functions: returns location of call in stack
 - Useful when a request has several levels of function/file recursion
 - Identifies calling templatename, line number, functionname at that current point in code
 - Can write to screen, log, console
- Cookies can be set in cfscrip (including all needed properties)
- New CFInclude runonce attribute
 - <http://www.coldfusionjedi.com/index.cfm/2011/10/17/ColdFusion-Zeus-POTW-CFINCLUDE-Improvement>

WHAT'S NEW: SYSTEM FUNCTIONS

- `GetCpuUsage(time)`
 - CPU usage in percentage over interval (1 second default)
- `GetSystemTotalMemory()`
 - Available total memory in the system (OS)
- `GetSystemFreeMemory()`
 - Available free memory in the system (OS)
- `GetTotalSpace("system_root")`
 - Get total disk space for given path (hard drive or CF Virtual FileSystem)
- `GetFreeSpace("system_root")`
 - Get free disk space for given path (hard drive or VFS)

WHAT'S NEW: CFC ENHANCEMENTS

- Implicit constructors for CFCs (optional)
 - Can initialize CFC properties on instantiation, passing key-value pairs or struct
 - Properties set either using explicit or implicit setters (introduced in CF9)
- Implicit notation for properties (get/set, without specifying setters)
- CFC Method chaining
 - `new employee().setFirstName("Tom").setAge(30)`

WHAT'S NEW: ORM ENHANCEMENTS

- Lazy loading for Flex/Air clients talking to CF ORM
 - Related entities of main entity returned only if/when needed by client
 - Configurable per server, per CFC
- ORM Search
 - Full text search of ORM entities
 - Powered by Lucene, which also underlies Solr
 - Provides for indexing, searching, autoindexing, offline indexing
- HQL in debug output

WHAT'S NEW: SOLR

- Improved indexing of database-based data
 - New "data import handler" feature vs traditional cfquery/cfindex operation
 - Supports full indexing (first load) or partial indexing (if db is updated)
- Improved means of adding custom fields to index entry
 - Previously had only custom1, custom2, etc. Now can use real field names
- Support for additional languages
 - More: <http://wiki.apache.org/solr/LanguageAnalysis>

WHAT'S NEW: OTHER

- Charting
 - All new charting engine
 - Styles are JSON objects
 - Deeper configuration via JSON
 - Lots of new features, chart types
- Java Integration
 - Java libraries from custom path (versus drop in CF lib directory)
 - Dynamic loading without server restart
 - Application.cfc

```
THIS.java.loadpath = ["C:\mylibs\", "C:\myapp\mylib.jar"];
THIS.java.autoreload = true;
```
 - `createObject("java", classname, <array of jars | path >)`
 - Access to CFC files from within Java (improved)
 - `CFCProxy myCFC = new CFCProxy(cfcPath, true);`

WHAT'S UPDATED

- CF Admin Java applet for file/folder choosing
 - Replaced with jQuery control
- Application-specific in-memory file system (VFS)
 - CF9 introduced, but was system-wide (shared by all)
 - Can now be set to per-application (in admin or in app), and can set limits
- Exchange 2010 support, including EWS (web svcs)
 - Also folder operations, user scheduling, conversation-based ops
- Web Services now Axis 2 (adds REST, WDSL 2.0 and much more)
 - Create and publish REST-based services (using JSON, XML)
 - SOAP 2 can be specified at component, application, or server level
 - Backwards-compatible (always a goal for CF)

FAQTCYBA

- Frequently Asked Questions That Cannot Yet Be Answered:
 - When will it be released?
 - How will it be priced?
 - What will be included in Enterprise? Standard?
 - Any changes to CFBuilder? CF Report Builder? etc?
 - How do I get on the prerelease?
 - Will Zeus add xxx which Railo/OpenBlueDragon already has?
 - And so on

WHERE TO LEARN MORE

- Max recordings:
 - CF Team (Hemant, Rupesh):
 - <http://tv.adobe.com/watch/max-2011-develop/whats-next-in-coldfusion/>
 - Ray Camden (Developer Evangelist), Adobe:
 - <http://tv.adobe.com/watch/max-2011-develop/keeping-current-with-coldfusion/>
- NCDevCon recordings:
 - Awdhesh Kumar (Sr Computer Scientist, Adobe):
 - <http://textiles.online.ncsu.edu/online/Viewer/?peid=09083d8d4c35499793f6611dedfba49e1d>
 - Rakshith Naresh (CF Product Mgr, Adobe):
 - <http://textiles.online.ncsu.edu/online/SilverlightPlayer/Viewer?peid=802d9879b7794f2c84950d26e656838a1d>
- Some Key Adobe CF Blogs:
 - <http://blogs.adobe.com/coldfusion>
 - <http://www.coldfusionjedi.com>