WHAT’ NEW IN CF ZEUS

Charlie Arehart
Independent Consultant
charlie@carehart.org  (Twitter: @carehart)
OUTLINE

• Introduction
• What’s removed
• What’s new
• What’s updated
• 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 cfscript (including all needed properties)
- New CFInclude runonce attribute
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):
  - Ray Camden (Developer Evangelist), Adobe:
- 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