NOTICE TO ATTENDEES AT MY CFSUMMIT SESSION

I realized after the session that the deck I showed was missing some info I'd meant to share. See new/changed slides 11, 13, 20, 22, 25, 27, 30-34, 36, 38-43.

Also, note very important clarification about CF Standard vs Enterprise on slide 36. Some misinterpreted my point about how only 1 thing NEW in enterprise was Enterprise-only. There DO still remain many OTHER differences. See offered link.

1

HIDDEN GEMS IN CF2018

Charlie Arehart, Independent Consultant

CF Server Troubleshooter

charlie@carehart.org

@carehart (Tw, Fb, Li, Slack, Skype,GitHub)

Updated Oct 2, 2018

- Major features of CF2018 (quick overview)
- Hidden gems in many areas
  - Installation, administration, web server config, monitoring
  - New/changed features, new language constructs, etc.
- As well as other topics:
  - Updates to underlying libraries' version numbers
  - Deprecated/obsoleted features
  - What's new in Standard vs Enterprise
  - Pricing, licensing, end of life support
  - And more
- Slides carehart.org/presentations

TOPICS

- Focus on CF server troubleshooting, as an independent consultant
  - Assist organizations of all sizes, experience levels
  - Work remotely 99% of the time, safe, secure, easy (via shared desktop)
  - Satisfaction guaranteed. More on rates, approach, etc at carehart.org/consulting
- Love to share info, with my clients and the community
  - Active blogger
  - Speaker at nearly every CF conference
  - Contributor to/creator of many CF community resources
    - As well as CF411.com, CF911.com, and more

ABOUT ME

- How many have started using CF2018 in prod? In dev?
  - How many have at least seen resources about it?
  - Not surprised if not even many: people often wait
- Anyone "waiting for first point release"?
  - Update 1 came out last month
- How many likely won't use it until next release (CF 2020)?
- I do these talks, not just for those making the move now or soon
  - But also those who may see it in future ☺
- Anyone know when I started doing hidden gems in CF?
  - 4.0.1 in 1999

SOME INTRO QUESTIONS FOR YOU

- If you may be jumping to 2018 from 11 or earlier...
  - Don't miss changes and hidden gems I'd identified in those versions
  - See my hidden gems talks on each: carehart.org/presentations
  - I discuss also compatibility issues moving to each, as I will about 2018

JUMPING FROM CF11 OR EARLIER?

- While normally I'd be pointing to CF docs for more…
  - At CF2018 launch Adobe offered several blog posts
    - *coldfusion.adobe.com/category/coldfusion-2018/*
    - *coldfusion.adobe.com/tagpage/?tag=coldfusion%202018*
  - Sadly, doesn't list ALL of them. See my blog listing them soon after launch:
    - *carehart.org/blog/client/index.cfm/2018/7/19/whats_new_in_CF2018*
- Also, here at CFSummit there are several Adobe sessions on CF2018
  - Of course they go into MUCH more depth on many of the topics I'll only mention
  - Hopefully some of them will be offered online, if you miss them/for those not here

MORE ABOUT CF2018 THAN JUST IN DOCS

PMT

Auto Lockdown

CFML language

Security

Performance
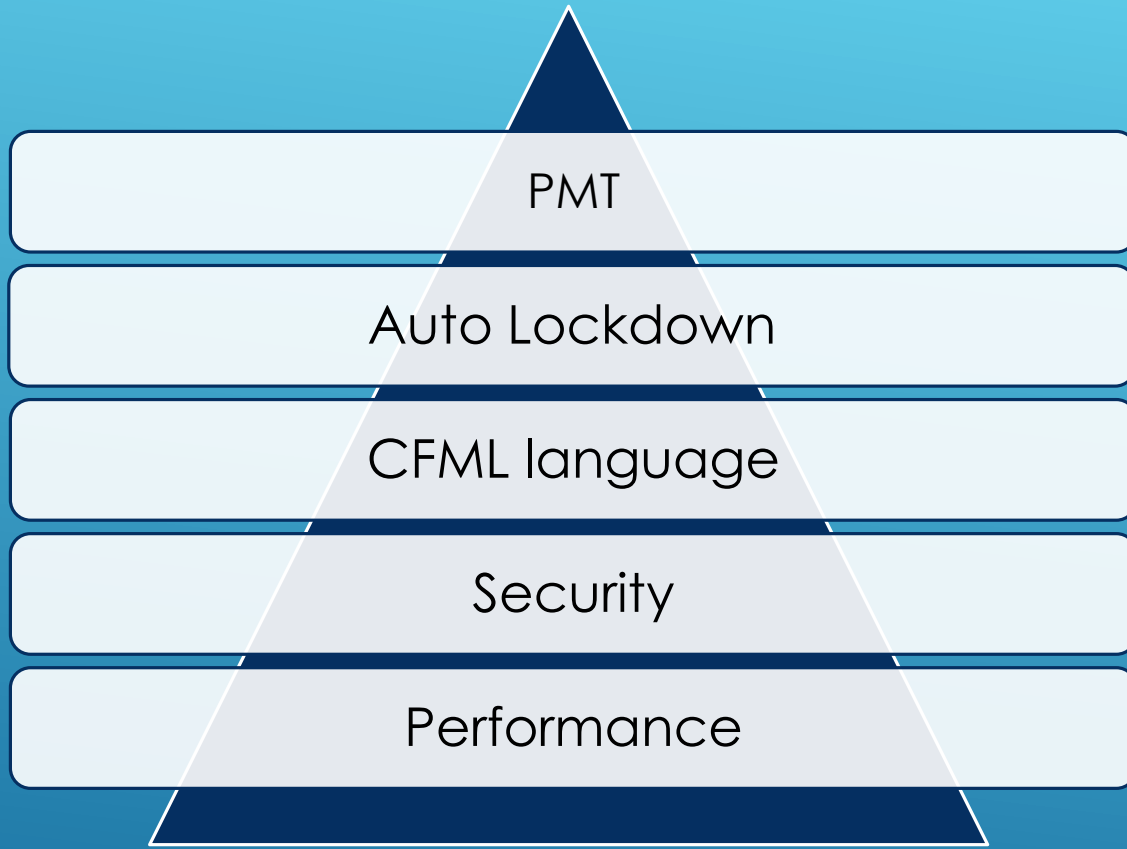
MAJOR FEATURES OF CF2018

- New UI for CF Admin
- Command-line REPL
- REST Playground
- New caching engines
- Changes in CF Builder
- But then many other hidden gems
  - and some also within the "noted" and "less noted" features
  - Let's proceed…

SOME LESS NOTED (BUT NOT HIDDEN) FEATURES

9

- We'll start with things like installation, administration, configuration
  - Then development features and more
- First up, not so much a feature but a warning for some:
  - As of CF2018 there is no longer a 32-bit installer
- More:
  - *coldfusion.adobe.com/2018/10/does-adobe-coldfusion-2018-release-have-32-bit-support/*

INSTALLATION GEM

- Have you seen the CF 2018 Admin? Let's take a look
  - Real hidden gem: don't miss the offered "search" feature at the top right
  - DEMO
- Another Admin hidden gem:
  - Scheduled tasks page finally adds "pause all" and "resume all" buttons
  - CFSCHEDULE has been able to do that also, since CF10
    - In CF2018, that no longer requires use of GROUP or MODE attributes
    - But will only stop "Server" mode tasks and "application" mode tasks in same app where cfschedule tag is running
  - More:
    - *helpx.adobe.com/coldfusion/cfml-reference/coldfusion-tags/tags-r-s/cfschedule.html*

ADMINISTRATOR CHANGES

- Some may know CF has long had a lockdown guide
  - Written by Pete Freitag and offered as part of CF docs through CF2016
- CF2018 adds a new (optional) auto-lockdown tool
  - Tries to handle all at once the 84-pages of steps in the Lockdown Guide
- Does offer rollback and uninstall features
  - as well as logs of what it does, if it rolls back
- See [CF Home]\lockdown\
  - uninstall at ([CF Home]\lockdown\[Instance locked down]\Uninstall)
- …

NEW AUTO LOCKDOWN

- Also offers silent install option

- Downloading it: *adobe.com/support/coldfusion/downloads.html*

- More:

  - *helpx.adobe.com/coldfusion/using/server-lockdown.html*

  - *coldfusion.adobe.com/2018/07/server-auto-lockdown/*

- **One potential trap**:

  - Release notes for update 1 shows extra steps to take if autolockdown applied

  - *helpx.adobe.com/coldfusion/kb/coldfusion-2018-update-1.html*

NEW AUTO LOCKDOWN

- New monitoring solution for CF2018
  - Is a very tool, really worthy of an entire talk, indeed multiple talks
  - There are many happening this week, today and tomorrow
  - Will share some tips to help you get started with it
- Downloading it: *adobe.com/support/coldfusion/downloads.html*
- Configuring it
  - Auto discovery, or manual config
    - *coldfusion.adobe.com/2018/07/auto-discovery/*
  - as of initial release, server auto-discovery does not support https
    - *coldfusion.adobe.com/discussion/2539323/*
- …

PERFORMANCE MONITORING TOOLSET (PMT)

- Launching it: no start menu option, but instead link within CF Admin
- Something you might miss: alerts
  - *coldfusion.adobe.com/2018/07/alerts-and-notification/*
- Learning more:
  - *helpx.adobe.com/coldfusion/user-guide.html?topic=/coldfusion/morehelp/pmt.ug.js*
  - and blog posts …

PERFORMANCE MONITORING TOOLSET (PMT)

15

- Several CF team blog posts
  - *coldfusion.adobe.com/2018/07/monitoring-coldfusion-servers/*
  - *coldfusion.adobe.com/2018/07/topology-birds-eye-view-of-coldfusion-deployment/*
  - *coldfusion.adobe.com/2018/07/database-discovery/*
  - *coldfusion.adobe.com/2018/07/external-services/*
  - *coldfusion.adobe.com/2018/07/code-profiler/*
  - *coldfusion.adobe.com/2018/07/server-monitor-thread-dump-analysis/*
  - *coldfusion.adobe.com/2018/07/server-monitor-mystery-of-health-score-pmt/*
  - *coldfusion.adobe.com/2018/07/performance-monitoring-toolset-connecting-the-dots-using-jvm-metrics/*
  - And others I mention elsewhere here

PERFORMANCE MONITORING TOOLSET (PMT)

16

- Again, there were some important improvements in CF2016
  - Much better defaults than CF10, 11, and also enhanced config options
- Still more enhancements to wsconfig UI in CF2018
  - Choice of expected "load levels"
  - Demo
- New connector auto-tuning, within PMT
  - Bummer: only for IIS, it seems
- More:
  - *coldfusion.adobe.com/2018/07/connector-tuning/*
  - *helpx.adobe.com/coldfusion/performance-monitoring-toolset/view-list-sites-busy-connections.html*

WEB SERVER CONFIG TOOL (WSCONFIG) CHANGES

17

- Previously CF supported ehcache
  - Now adds JCS (like ehcache, implemented within jvm)
  - And new options for distributed caching: Memcached, redis
- See CF Admin setting
- DEMO
- Can also override caching features/settings at application-level
- Also related new AdminAPI methods
- For more:
  - coldfusion.adobe.com/2018/07/distributed-caching-coldfusion-2018-release/
    - useful table at bottom
  - helpx.adobe.com/coldfusion/developing-applications/changes-in-coldfusion/caching-enhancements.html

NEW CACHING OPTIONS

- CF2016 had added new command-line interface (CLI)
  - Allowed cmd line CFML execution by pointing to a cfm file
  - Accessed using cf.bat or cf.sh in cfusion/bin folder
- CF2018 adds true REPL (read-eval-print-loop)
  - Essentially, able to write *cfscript* at command line (still via cf.bat / .sh)
    - **CAN** do tags using file approach above
  - CF does not even need to be running
  - Supports multi-line statements, either implicitly, an open "{" block, or via "^"
    - To leave multiline mode, use special statement "multilineexit"
  - To exit repl: q or ctrl-c
  - Use "help" command to find more
- …

NEW CFML REPL

- Can call CFCs **only in current** directory where cf.bat is running
  - can run cf.bat there, using path in front of it: \coldfusion2016\cfusion]bin\cf.bat
- Can output to terminal with writeoutput, writeDump, of course
  - But also, output gets auto-printed to the console when typing
    - an assignment
    - an expression evaluating to some value
    - a function
  - How to disable automatic printing of output in the console?
    - In cfusion/bin/cf.bat file, change setting PRINT_REPL_VARS_AUTO to false
- For more on REPL and CLI:
  - *helpx.adobe.com/coldfusion/using/command-line-interface.html*

NEW CFML REPL (CONT.)   20

- On the topic of "trying out code" easily, consider Adobe's CFFiddle
  - cffiddle.org
  - Not new or CF2018-specific, but recent update: no longer need to login
  - Can save scripts to share with others, and more
- Consider also trycf.com

- Let's move on to language feature gems

CONSIDER ALSO CFFIDDLE

- Somewhat along the same lines…
- The REST playground is a new way to work with CF rest services
  - Application bundled with CF, to help visualize, test, and debug them
- More
  - *coldfusion.adobe.com/2018/07/rest-playground-ion-2018-release/*
  - *helpx.adobe.com/coldfusion/using/rest-enhancements-coldfusion.html#restplay*

REST PLAYGROUND

- Null support
  - *coldfusion.adobe.com/2018/07/null-support-in-coldfusion-2018/*
  - *helpx.adobe.com/coldfusion/developing-applications/the-cfml-programming-language/using-coldfusion-variables/data-types-developing-guide.html#null-support*
- Async feature
  - *coldfusion.adobe.com/2018/07/asynchronous-programming-in-coldfusion-2018-release/*
  - *helpx.adobe.com/coldfusion/using/asynchronous-programming.html*
- Enhanced support for new operator
  - *coldfusion.adobe.com/2018/07/enhanced-support-for-new-operator*
  - *helpx.adobe.com/coldfusion/using/whats-new.html#new*
- …

CHANGED LANGUAGE FEATURES

- Semi-colon optional
  - *coldfusion.adobe.com/2018/07/writing-cfms-without-semicolons/*
  - *helpx.adobe.com/coldfusion/using/whats-new.html#Otherchanges*
- Closures in tags (previously only in script)
  - *coldfusion.adobe.com/2018/07/closures-in-coldfusion-tags/*
  - *helpx.adobe.com/coldfusion/developing-applications/the-cfml-programming-language/extending-coldfusion-pages-with-cfml-scripting/using-closures.html#closure-tags*
- Named parameters
  - *coldfusion.adobe.com/2018/07/named-parameters-in-coldfusion/*
  - *ftp://ftp.adobe.com/pub/adobe/coldfusion/2018/NamedParametersColdFusion2018.pdf*
- …

CHANGED LANGUAGE FEATURES (CONT)

- New control of query auto-generation of primary keys
  - cfquery attribute disableAutoGenKeys
  - queryexecute
    - Added the value disableAutoGenKeys in queryOptions struct
- Cfchart
  - Adds support for responsive client-side charts
  - Can specify the height and width in percentages

- And still more groups of changes …

CHANGED LANGUAGE FEATURES

- Typed arrays

- Array negative indexes

- Array slices

- Member functions now supported for string literals

- More:

  - *coldfusion.adobe.com/2018/07/arrays-and-string-enhancements-in-coldfusion-2018/*

ARRAY AND STRING ENHANCEMENTS   26

- ArrayFirst

- ArrayLast

- QueryDeleteColumn

- QueryDeleteRow

- CacheGetEngineProperties

- RunAsync

- StructIsOrdered

- More:

  - helpx.adobe.com/coldfusion/cfml-reference/new-functions-coldfusion-2018.html

NEW CFML FUNCTIONS

- Too many to list, but in categories of:
  - query functions
  - array functions
  - xml functions
  - async functions
  - numeric functions
  - date functions
  - as well as changes to some existing member functions
- *coldfusion.adobe.com/2018/07/member-functions-coldfusion-2018/*
- *helpx.adobe.com/coldfusion/developing-applications/building-blocks-of-coldfusion-applications/using-the-member-functions.html*

NEW MEMBER FUNCTIONS

- Abstract CFCs & Methods
- Subtyping/covariant method return types
- Final variables, methods, components
- More:
  - coldfusion.adobe.com/2018/07/oop-and-coldfusion/
  - coldfusion.adobe.com/2018/07/oop-and-coldfusion-part-2/
- default functions in interface
  - coldfusion.adobe.com/2018/07/default-function-in-interface/

OO LANGUAGE ENHANCEMENTS

- We're more than half-way home. But areas remaining include…
    - Deprecated features
    - Updates to underlying libraries' versions numbers
    - What's new in Standard vs Enterprise
    - Pricing
    - Updates since initial release
    - And more!

OTHER TOPICS

- See:
  - *helpx.adobe.com/coldfusion/deprecated-features.html*
- Some features listed as deprecated (there, but should not be used)
  - Mostly things rarely used by most anymore
- New concept: "retired" (feature **not enabled by default**)
  - Some may be things rarely used by most (flash remoting, flash forms, etc.)
  - Some you may use: UI tags (more on that in a moment)
- Potential trap
  - That page says only the thing removed in CF2018 is CF Server Monitor
  - I ran into some other issues…

DEPRECATED FEATURES

- The pages list some things as deprecated that seem obsoleted (code fails)
  - cfschedule's timeout attribute (used in creating a new task)
    - can add cfsetting requesttimeout to page being called (if under your control)
  - cfcache's cachedirectory and timeout attributes
- Also, though not listed on the page, I found:
  - cfqueryparam failed if..
    - cfsqltype="CF_SQL_int" (should instead be "CF_SQL_integer")
    - cfsqltype=""CF_SQL_DateTime" (should be CF_SQL_date, time, or timestamp)
  - cfsocialplugin failed if width attribute specified

UNDOCUMENTED OBSOLETION? 32

- Among things listed as "retired" are UI tags based on YUI javascript library
  - So these will not work out of the box with 2018, but you can "enable" them
  - This was also true as of one of the updates to CF2016 and 11 last year
- Includes these tags
  - cfmenu, cftree, cftooptip, cfcalendar, cfinput (autosuggest attribute), cfinput (sourcefortooltip attribute), cfsprydataset
- To re-enable these, just copy needed YUI library files back into CF
  - See bottom of that deprecated features page

YUI-BASED TAGS

- Watch out: as part of the new OO support, CF now has an ***abstract*** keyword
  - As such, if you have code that uses that word, you will have a conflict/errors
  - Even if you may not think you use that, watch out that frameworks might
    - ColdSpring does
  - You need to carefully find and replace variable names, properties called "abstract"
    - May not want to do global replace, as you may have text that shouldn't be replaced
    - Could just run through code and fix those which get errors, but that's risky, too

OTHER GOTCHAS

- Antisamy 1.5.7 (OWASP security library)

- Derby 10.11 (embedded DB)

- Ehcache 2.10.3 (caching library)

- Esapi 2.1.0 (OWASP Enterprise Security API)

- Hibernate 5.2.11 (ORM library)

- Httpclient 4.5.2 (underlies CFHTTP and more)

- Java 10.0.1 (the JVM which underlies CF)

- jQuery 3.1.1 and jQuery UI 1.12.1 (JS library which underlies various UI tags and Admin interface features)

- Lucene 6.6 (underlies Solr search engine in CF)

- POI 3.7 (underlies MS Office Integration features)

- Solr 7.2.1 (the embedded search engine, used by CFSEARCH/CFINDEX, etc.)

- Tomcat 9.0.10 (app server underlying CF, when deployed in traditional "Server" configuration)

UPDATES TO SOME UNDERLYING LIBRARIES' VERSIONS NUMBERS

- Only thing **<u>new</u>** that is Enterprise only is distributed caching
  - redis and memcached options
  - Standard **does** support long-standing ehcache and the new jcs option
- The CF2018 perf. whitepaper says "web server path caching" is Ent-only
  - But it's not a new feature (has been there for many releases)
  - And I see the option in the CF2018 Admin Caching page

- LET ME BE CLEAR: **<u>I am NOT saying that's the ONLY difference between CF2018 Standard and Enterprise</u>**
  - I'm saying that's the only thing NEW in 2018 that is Enterprise-only
- For more on differences between CF Std and Ent:
  - *adobe.com/products/coldfusion-standard/buying-guide.html*

STANDARD VS ENTERPRISE

- And now, the shoe drops. The price of CF2018 has increased
  - Standard: 2499 (per 2 CPU cores)
  - Enterprise 9499 (per 8 CPU cores)
- Upgrade discount for those on CF2016 (none for those on CF11 or earlier)
- Consider buying CF from resellers, for still more discounts
  - Buy-adobe-software.com (from makers of FusionReactor)

PRICING

- No real difference from CF2016

- More:

  - adobe.com/content/dam/acom/en/legal/licenses-terms/pdf/ColdFusion.pdf

LICENSING

- Release notes (bug fixes, known issues, etc.)
  - helpx.adobe.com/coldfusion/release-note/coldfusion-2018-release-notes.html
- Performance Whitepaper
  - wwwimages2.adobe.com/content/dam/acom/en/products/coldfusion/pdfs/CF2018_Performance.pdf

SOME OTHER RESOURCES ON CF2018

- Released last month
- Tomcat updated to 9.0.10
- New GetCanonicalPath function
  - Was also added to CF2016 and 11 per their updates released at the same time
- Potential traps…

UPDATE 1

- Potential trap:
  - Update adds *packetsize* to server.xml for the ajp and http "connector" xml elements
  - Someone complained they had already added that, and the update just added it again, making it a dupe and this preventing thus CF coming up!
    - And the server.xml file did NOT get backed up in the hf-updates folder
- Remember also potential trap if autolockdown is applied mentioned before

- More:
  - *helpx.adobe.com/coldfusion/kb/coldfusion-2018-update-1.html*

UPDATE 1

- Lists of updates, links to technotes, and offers jar download links!
  - *helpx.adobe.com/coldfusion/kb/coldfusion-2018-updates.html*
- Also available for CF 2018, 11 and 10:
  - *helpx.adobe.com/coldfusion/kb/coldfusion-2016-updates.html*
  - *helpx.adobe.com/coldfusion/kb/coldfusion-11-updates.html*
  - *helpx.adobe.com/coldfusion/kb/coldfusion-10-updates.html*
- Again, updates are cumulative, need only apply latest!

- And finally…

SINGLE PAGE LISTING ALL CF2018 UPDATES

- Some may know that Adobe released Docker images for CF2016
  - They have been updated for CF2018
  - And it's also been updated already for Update 1
- *bintray.com/eaps/coldfusion/cf%3Acoldfusion/2018.0.1/view/readmore#release*

ADOBE CF DOCKER IMAGE UPDATED

- Built-in FTP support
  - Window>Show View>Other>Remote Systems
  - in previous releases, you'd have to know to get it, Remote Systems Explorer
  - *helpx.adobe.com/coldfusion/using-coldfusion-builder/managing-servers.html#remote*
- Asserted to load large files faster, and use less memory
- Support to import code profiler data from PMT
  - *helpx.adobe.com/coldfusion/using-coldfusion-builder/managing-projects.html#profiler*
- …

CFBUILDER IMPROVEMENTS

- Cordova replaces Phonegap
  - *helpx.adobe.com/coldfusion/mobile-application-development/packaging-mobile-applications.html*
- Standalone edition now built upon Eclipse Oxygen 4.7.2
- More:
  - *helpx.adobe.com/coldfusion/using-coldfusion-builder/whats-new-in-coldfusion-builder.html*

CFBUILDER IMPROVEMENTS

- So, lots of changes, right? (Too many to easily count)
- Hope you may be more motivated—and informed—to consider CF2018
  - To understand if and how it may work for you
  - Or at least where things stand regarding it as of now
- Again, my contact info for followup:
  - Charlie Arehart
  - charlie@carehart.org
  - @carehart (Tw, Fb, Li, Slack)

SUMMARY