HIDDEN GEMS IN CF2016

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Major features of CF2016 (quick overview)

Hidden gems in many areas
  - Installation, administration, web server config
  - New/changed features, new language constructs, new member functions
  - New/changed CFML functions, tags

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
ABOUT ME

- 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)
  - Focus is not just solving problems but educating you
  - 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
    - Online CFMeetup, CF411.com, UGTV, CF911.com, CFUpdate.com, and more
- I also happen to be manning the FusionReactor booth on and off. Stop by
How many have started using CF2016 in prod? In dev?
  ▶ At least seen resources about it?
  ▶ Not surprised if not all or most: people often wait
Anyone “waiting for first point release”?
  ▶ Have been 3 updates already
How many likely won't use it until next release (CF2018, or whatever)?
  ▶ I do these talks, not just for those making the move now, soon, or have already
  ▶ But also those who may see it in future 😊
Anyone know when I started doing hidden gems in CF?
  ▶ 4.0.1 in 1999
So, let's look first only BRIEFLY at the major new features
MAJOR FEATURES OF CF2016

- API Manager
- Security Code Analyzer
- PDF Improvements (redaction, sanitization, more)
- CFML language improvements (tags, functions, and more)
- Security improvements (especially more NTLM support)
- Performance improvements

Now, on to the more “hidden” gems!
- Removal of Akamai Download Manager!
- Unfortunately, CF install had gotten huge (1GB) because of API Manager
  - Especially tragic if you’d be using CF Standard: by license can’t use API Mgr
- **Finally fixed.** New installer in Dec 2016: blogs.coldfusion.com/post.cfm/coldfusion-2016-installer-refreshed
- Next: hidden gems in CF Admin
CF Admin option to store CF sessions in redis (cache) rather than heap memory
  ▶ Gotcha: works only with CF sessions, not “J2EE sessions”
    ▶ Those using “j2ee sessions” could modify Tomcat (underlying CF) on their own
      ▶ blog.svajlenka.com/post/125784752315/redis-and-coldfusion-because-why-not

New applicationintent field, in DSN settings for SQL Server
New admin setting to disable “REST discovery” by API Manager
  ▶ See Settings page, last setting
CFscripts folder now moved to its own directory, no longer within CFIDE!

CF Admin now available **only** via CF’s internal web server by default

For more on these admin and config changes, see
  - carehart.org/blog/client/index.cfm/2016/2/23/cf2016_CF_Admin_changes

Next: gems regarding Web Server Config...
Many new fixes and improvements related to the web server config tool...

Fixed: no longer any need to manually reconfigure connectors after update, it seems

Fixed: for those using multiple instances (in CF Enterprise/Trial/Dev)
  ▶ Wsconfig UI finally offers option to pick instance name to connect to (like CF9<)!
  ▶ In CF10/11, we had to start wsconfig in \instance\'s runtime\bin to connect site to it

Fixed: if you open wsconfig UI while already open, you no longer get blanks
  ▶ You get warning that you may already have it open
Improved: Wsconfig UI now offers config option for all 3 connector “tuning” args

Also better defaults now

And for IIS: better connector tuning settings for 2-site setup by default

- Connection_pool_size (500), max_reuse_connections (250):
- Sadly, for now, this is not so for Apache configs, but is due to be fixed in upcoming update

WEB SERVER CONFIG TOOL (WSCONFIG) CHANGES (CONT.)
- Sadly, CF installer web config step still doesn’t offer such config of “tuning” options
- And neither wsconfig tool or installer offers any help to tune “correctly” for your site setup
- Wsconfig does now offers both an "all" option (for all sites) and an "all - individually"
“Advanced Settings” now also offers "skip iis custom errors" option
  ▶ Disabled by default. Useful for some scenarios
  ▶ Needed to add manually to isapi_redirect.properties file in CF10/11

Nice to see all these improvements to the wsconfig, which has been a source of heartburn in CF10 and 11.

Let's move on to other gems…
NEW CF CLI

- New command-line interface (CLI)
  - Allows cmd line CFML execution by pointing to a cfm file, via cf.bat
- For more, see
  - helpx.adobe.com/coldfusion/2016/command-line-interface.html
CF Admin “enable whitespace management” option now suppresses whitespace at compile time as well as runtime

Swagger doc generation (for restful api's and API Manager)
  - helpx.adobe.com/coldfusion/2016/swagger-document-generation.html

Now on to language enhancements...
New application-level controls

- `searchImplicitScopes`, `passArrayByReference`
- Each can change long-standing behavior for these operations, **vastly improving performance** (5x and 25x, respectively)
- Set as either `cfapplication` attributes or via this scope in `application.cfc`
- See:
  - [helpx.adobe.com/coldfusion/2016/language-enhancements.html#Scopesearch](http://helpx.adobe.com/coldfusion/2016/language-enhancements.html#Scopesearch)
- New argument for structnew(), **ordered**, maintains insertion order
  - Looping over such a struct will also return in insertion order
  - All other forms of creating new structs keep same order as before
  - Also support for creating empty ordered struct
- [helpx.adobe.com/coldfusion/2016/language-enhancements.html#CollectionsupportOrdered](http://helpx.adobe.com/coldfusion/2016/language-enhancements.html#CollectionsupportOrdered)
Safe navigation operator (?.)
- Used when accessing members of a struct or values of an object
- Used instead of ".", to prevent exception if not defined, null, etc.
- Simplified code, versus nested isdefined tests

Examples:
- `<cfoutput>#employee?.firstname#</cfoutput>`
  - Will output empty string if firstname does not exist/null
- `Writeoutput(employee?.name?.firstname?.trim());`
  - Will output empty string if all 3 are undefined/null
NEW LANGUAGE CONSTRUCTS (CONT.)

- For more info and examples (including setting variables with safe navigation):
  - helpx.adobe.com/coldfusion/2016/language-enhancements.html#Safenavigation
  - helpx.adobe.com/coldfusion/developing-applications/the-cfml-programming-language/using-coldfusion-variables/using-periods-in-variable-references.html#Usingthesafenavigationoperator
  - blog.adamcameron.me/2015/10/coldfusion-12-it-goes-to-show-you.html
  - adobe.com/devnet/coldfusion/articles/language-enhancements-cf-2016.html
Many new member functions (expanding on the new feature in CF11)
- These are functions you append to the end of a variable, like fname.ucase()
- Intro: helpx.adobe.com/coldfusion/developing-applications/building-blocks-of-coldfusion-applications/using-the-member-functions.html

New array member functions: arrayDeleteNoCase

New string member functions:
- encrypt, paragraphFormat, replaceListNoCase
- decodeFromURL, decodeForHTML, encodeForHTML, encodeForHTMLAttribute
- encodeForXML, encodeForXMLAttribute, encodeForXPath
- encodeForCSS, encodeForJavaScript, encodeForURL
- getSafeHTML, isSafeHTML
- urlDecode, urlEncodedFormat

NEW MEMBER FUNCTIONS
New datetime member functions:
- LSDateFormat
- `setSecond`, `setMinute`, `setHour`
- `setDay`, `setMonth`, `setYear`

New query member functions:
- `queryEach`, `queryKeyExists`, `queryFilter`, `queryMap`, `queryReduce`, `querySort`, `valueArray`

New display and formatting member functions:
- `booleanFormat`, `yesNoFormat`

The aforementioned intro doc on member functions indicates those new for CF2016 (with *)

...now on to changes in CFML functions and tags...
- New CFML functions
  - arrayContainsNoCase, arrayDeleteNoCase, valueArray
  - querySort, queryEach, queryFilter, queryKeyExists, queryMap, queryReduce
  - booleanFormat, floor, isPDFArchive, replaceListNoCase, spreadsheetGetColumnCount
- Changed functions:
  - arraynew, cacheRemove, dateFormat, timeFormat, createDateTime
  - replace, replaceList, spreadsheetAddRows, writeoutput
- More info, links to details on new/changed CFML functions:
  - helpx.adobe.com/coldfusion/2016/other-enhancements.html
  - helpx.adobe.com/coldfusion/2016/language-enhancements.html#ArrayFindNoCase
Changed CFML tags…

- **CF_LOOP**
  - New *item* attribute, for use with loops over list, array, or file
  - Named *item* var will hold element looped over
  - Named *index* var (optional) will hold index value, if any

- Link to docs on these and the rest will follow
CFMAILPARAM

- New, optional filename attribute, to give different name for file attached to email when using cfmailparam file attribute
- File points to name as on server, filename points to name as shown in email

CFOUTPUT

- New encodefor attribute: names encoding type to be used for strings within it tags, if not otherwise surrounded by an encodefor function (types: html, htmlattribute, url, javascript, css, xml, and so on)
**CFSEARCH (Solr searching)**
- New **Type** attribute values (for parser): **Standard, Dismax**
- Old verity-based types no longer supported
  - `simple, explicit, internet, internet_basic, natural`

**CFCOLLECTION**
- **path** attribute is now ignored
- All collections are created in the **collections** directory at the location specified in **Solr_Home** field in the ColdFusion admin

**CFSOCIALPLUGIN**
- See comments in [ColdFusion2016]\cfusion\CustomTags\socialplugin.cfm
More info on changed tags, with links to details:

- helpx.adobe.com/coldfusion/2016/other-enhancements.htm
- helpx.adobe.com/coldfusion/2016/language-enhancements.html
Many enhancements to PDF support
  - Mentioned before sanitization, redaction, but also:
    - Export/import of comments, metadata
    - Archiving, including newer PDF/A-2b and -3b standards
    - Support for attachments, stamps
  - For more, see substantial article with examples, and code download
    - adobe.com/devnet/coldfusion/articles/pdf-enhancements.html
  - Not mentioned on that page:
    - CFPDF adds new encrypt attribute values: AES_256R5 and AES_256R6

Phew, so that's it for language, feature, admin and config changes
Think we're done discussing “all that's different” / hidden gems?
  - Not yet!
We are 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!
▶ Deprecated features (nothing obsoleted)
    ▶ These may (will likely) be obsoleted in later releases, but are still supported
▶ Language features:
    ▶ CFCHART format="flash"
    ▶ CFFILEUPLOAD Flash component
    ▶ CFMEDIAPLAYER
    ▶ CFTABLE
    ▶ UI Tags based on YUI toolkit - CFTREE, CFCALENDAR, CFAUTOSUGGEST, CFMENU
        ▶ These uniquely are also “no longer supported”/updated
        ▶ Watch out: as of
▶ Report Builder
Certain admin features deprecated
  • Event gateways - Jabber, Flash Media server
  • Portlets
  • System Probes
  • Server Manager
  • Server Monitor (was listed as deprecated, but will not be)

For more on deprecation, dropping of support for some things
  • helpx.adobe.com/coldfusion/deprecated-features.html
  • carehart.org/blog/client/index.cfm/2016/2/22/cf2016_deprecated_features

Now, how about the status/versions of CF’s underlying Java libraries?
- Antisamy 1.5.3 (OWASP security library)
- Axis 2.1.7.0 (web services library, and note that’s “Axis 2” v 1.7.0, not “Axis”)
- Derby 10.11 (embedded DB)
- Ehcache 2.10.0 (caching library)
- Esapi 2.1.0 (OWASP Enterprise Security API)
- Ext JS 4.1 (JS library which underlies various UI tags)
- Ewsapi 1.1.5 (MS Exchange API)
- Hibernate 4.3.10 (ORM library)
- HttpClient 4.4.1 (underlies CFHTTP and more)
- Jetty 9.3.6v20151106 (underlies Solr, HTMLTOPDF, and more)
- Java 1.8.0_72 (the JVM which underlies all of CF)
- JDBC Drivers 5.1.4.000138 (the built-in Merant DB drivers, such as for SQLServer, Oracle, and even MySQL. CF no longer includes the MySQL-provided driver, but you can add it yourself)
- jQuery 1.6.1 and jQuery UI 1.8.16 (JS library which underlies various UI tags and Admin interface features)
- Lucene 5.2.1 (underlies Solr, embedded search engine in CF)
- OpenSSL 1.0.2h (as of CF 2016 Update 2)
- POI 3.12 (underlies MS Office Integration features)
- PostgreSQL 9.4-1201 (db driver)
- Quartz 2.2.1 (underlies CF Schedule tasks)
- Servlets 3.1 (underlies CF/Tomcat processing)
- Solr 5.2.1 (the embedded search engine, used by CFSEARCH/CFINDEX/CFCOLLECTION, etc.)
- Tomcat 8.0.27.0, 8.0.32 as of Update 1 (the application server which underlies CF, when deployed in traditional “Server” configuration)
- YUI 2.3.0 (JS library which underlies various UI tags)

See: carehart.org/blog/client/index.cfm/2016/2/17/what_are_cf2016_embedded_library_version_numbers

UPDATES TO UNDERLYING LIBRARIES’ VERSIONS NUMBERS
Referring here only to what’s new/changed in CF2016 and in Enterprise only

- API Manager
- Security Analyzer

These do not work with CF 2016 Standard, nor even Developer edition!

- They do work with the CF Trial edition
- And you can take an enterprise license key and use it on a “dev” machine, of course

More:

- carehart.org/blog/client/index.cfm/2016/2/25/cf2016_enterprise-only_features
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For more, including how I found this info, see carehart.org/blog/client/index.cfm/2016/2/24/pricing_for_coldfusion_2016
Some debate/confusion initially about aspects of new EULA

See it for yourself

Reach out to CF Product Mgr, Rakshith Naresh, with any questions
- rakshith@adobe.com
CF10 support *not* terminating at end of this year
  - As happened with CF9 in 2014 when 10 came out
  - Instead, ends May 2017 (extended support, May 2019)
CF11 support ends April 2019 (“extended support” April 2021)
CF9 “extended support” ended 12/31/16
More: adobe.com/support/products-enterprise/eol/eol_matrix.html#63
There have been 3 updates to CF2016 since release (as of this date)

- Updates can be easily applied in CF Admin, “Server Update” page
  - Updates are cumulative, need only apply latest
  - If you have troubles applying CF updates (in 2016, or 10/11), see my blog post:
    - carehart.org/blog/client/index.cfm/2016/9/6/solve_common_problems_with_CF_updates_in_10_and_above

- As for updating CFBUILDER, should be prompted about available update
  - But you can implement it manually
    - helpx.adobe.com/coldfusion/kb/coldfusion-builder-2016-update-2.html#Installation

- There’s sometimes a fair bit that’s included in CF updates
  - Bug fixes, security improvements, and sometimes even minor new/changed features
  - Let’s take a look at them
Update 1 was released in May 2016, 3 months after initial release
  - Tomcat was updated to 8.0.32
  - Various updates to Security Analyzer
  - Several important bug fixes for security, core language features, server, and other areas (20 total bug fixes)

- CF Builder 2016 Update 1 released concurrently
  - Primarily addressed issues related to Security Code Analyzer and its performance
Update 1 resources

- Overview
  - helpx.adobe.com/coldfusion/kb/coldfusion-2016-update-1.html
  - helpx.adobe.com/coldfusion/kb/bugs-fixed-coldfusion-builder-2016-update-1.html

- Release notes (covers all updates)
  - helpx.adobe.com/content/help/en/coldfusion/release-note/coldfusion-2016-updates-release-notes.html

- Bug fixes and known issues
  - helpx.adobe.com/coldfusion/kb/bugs-fixed-coldfusion-2016-update-1.html

- Blog posts
  - blogs.coldfusion.com/post.cfm/updates-for-coldfusion-2016-coldfusion-11-and-coldfusion-10-released
  - blogs.coldfusion.com/post.cfm/coldfusion-builder-2016-update-1-released

UPDATE 1 (CONT.)
Update 2 was released in June 2016

- Allowed specifying the type of data when serializing structs or arrays
- New member functions:
  - ArrayDeleteNoCase
  - BooleanFormat
  - YesNoFormat
- Introduction of CK Editor/deprecation of FCKEditor
  - In cftextarea, ajax form controls
- Can configure SSL in API Manager: access API Mgr portals over HTTPS
- Change related to new NTLMDomain attribute
  - [helpx.adobe.com/coldfusion/2016/ntlm-support.html](http://helpx.adobe.com/coldfusion/2016/ntlm-support.html)
- OpenSSL libraries upgraded to version 1.0.2h
- Addressed vulnerability mentioned in the security bulletin APSB16-22
- Several important bug fixes (77, total bug fixes)
  - Security, core language features, server, and other areas
- CF Builder 2016 Update 2 released concurrently
  - Standalone edition upgraded underlying Eclipse from Kepler to Mars
  - Important updates to Security Analyzer, updated FTP/SFTP support in import/export project, several bug fixes (especially performance), PhoneGap upgraded to 5.2
Update 2 resources

Overview
  - helpx.adobe.com/coldfusion/kb/coldfusion-2016-update-2.html
  - helpx.adobe.com/coldfusion/kb/coldfusion-builder-2016-update-2.html

Release notes (covers all updates)
  - helpx.adobe.com/content/help/en/coldfusion/release-note/coldfusion-2016-updates-release-notes.html

Bug fixes and known issues
  - helpx.adobe.com/coldfusion/kb/bugs-fixed-coldfusion-2016-update-2.html

Blog post
  - blogs.coldfusion.com/post.cfm/updates-for-coldfusion-2016-coldfusion-builder-2016-coldfusion-11-and-coldfusion-10-released
Update 3 released in Oct 2016

- Added support for Websphere 9, IIS 10 (in Windows 10)
  - But as for support for Windows 2016, due to be released late Sept 2016, that will follow in time
- Support for sorted structs
  - New arg to StructNew(), including callback feature
  - New StructToSorted()
- New argument in ArraySum(): ignoreUndefined
  - If true, ignores null or "" values when adding array elements
- New language attribute for CFHTMLTOPDF, defaults to “English”
- CFHTMLTOPDFITEM tag has new evalAtPrint attribute
  - If true, content of CFHTMLTOPDFITEM evaluated AFTER PDF is generated, page numbers available
  - Allows conditional code inside CFHTMLTOPDFITEM
Also

- New domain/user/password support in CFOBJECT, CreateObject()
- New `useSecureJSONPrefix` arg for SerializeJSON()
- New `QueryGetResult()`, returns metadata about queries
- Several date-related changes in several functions, new `IsDateObject()`
- Also 180 bug fixes (100+ as reported by users)

CF Builder 2016 Update 3 released concurrently

- PhoneGap updated to 6.0
- 25 bug fixes, including for an important security fix and Security Analyzer
- Enhancements to editor
UPDATE 3 (CONT.)

- Update 3 resources
  - Overview
    - helpx.adobe.com/coldfusion/kb/coldfusion-2016-update-3.html
  - Release notes (covers all updates)
    - helpx.adobe.com/content/help/en/coldfusion/release-note/coldfusion-2016-updates-release-notes.html
  - Bug fixes and known issues
  - Blog post
    - blogs.coldfusion.com/post.cfm/updates-for-coldfusion-2016-and-coldfusion-builder-2016-is-available-now
SINGLE PAGE LISTING ALL CF2016 UPDATES

- Lists updates, links to technotes, and offers jar download links!
  - helpx.adobe.com/coldfusion/kb/coldfusion-2016-updates.html
- Also available for CF 11 and 10:
  - 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!
Mentioned previously new installer for CF2016, released Dec 2016

- Main benefit was removal of API Manager
- Also incorporates all 3 updates and updates JDK to version 1.8.0_112
- Still other changes

- But it also removes some libraries underlying certain deprecated features: Portlets, YUI, Spry
  - Used by cfcalendar, cfinput “autosuggest”/”datefield”, cfmenu, cftooltip, cfspydataset
    - These will now break
  - If you want to use them you have to go get the libraries
    - Links offered on blog post below or at https://helpx.adobe.com/coldfusion/deprecated-features.html

...
See blogs.coldfusion.com/post.cfm/coldfusion-2016-installer-refreshed
  ▶ And helpx.adobe.com/coldfusion/kb/coldfusion-2016-update-3-installer-refresh.html

Wrapping up, on to “Traps/Gotchas”…

NEW CF2016 INSTALLER IN DEC 2016 (CONT)
TRAPS/GOTCHAS

- Can no longer access CF11 installers on Adobe site
  - Look to cfmlrepo.com (community-run site)
- Can’t even license CF11 anymore
  - Must buy CF2016 and request “backward license” to CF11
  - blogs.coldfusion.com/post.cfm/adobe-coldfusion-backward-licensing
- Annoying: while there are PDFs of CF docs… (helpx.adobe.com/coldfusion/home.htm)
  - They generally show only one level within a section, then offer a link to online page for more detail (sometimes confusing)
  - Then even in the online docs, there are no features to move among sections
  - Vote for my bug reports: tracker.adobe.com/#/view/CF-4155931
    - And related: tracker.adobe.com/#/view/CF-4160535
Gotchas mentioned previously

- Security Analyzer works only with CF Enterprise (or trial)
  - Also requires CF installed in “Developer mode”, with RDS enabled
- New redis-based session vars support only CFML sessions, not j2ee sessions
- CF Installer web server config step does not yet offer tuning options

- See other (few) “known issues” listed in original release and update docs
- Be sure to apply updates before believing web reports of “known bugs”. May since have been fixed!

That’s it. Now on to resources for learning more…
In addition to many resources mentioned so far (do see them also), see these

- adobe.com/devnet/coldfusion/articles/whats-new-cf-2016.html
- helpx.adobe.com/coldfusion/whats-new.html
- helpx.adobe.com/coldfusion/2016/topics/features.html
- helpx.adobe.com/coldfusion/release-note/coldfusion-2016-release-notes.html
- Video on CF2016 (8-minute overview): youtube.com/watch?v=Bm6dJjNSPNG
- helpx.adobe.com/coldfusion/home.htm (CF2016 docs)
And these:

- adobe.com/products/coldfusion-standard/features.html
- helpx.adobe.com/pdf/Cf2016-standard-comparison.pdf (compares to previous releases)

- adobe.com/products/coldfusion-enterprise/features.html
- helpx.adobe.com/pdf/Cf2016-enterprise-datasheet.pdf
- helpx.adobe.com/pdf/Cf2016-enterprise-comparison.pdf (compares to previous releases)
And these:

- helpx.adobe.com/coldfusion/standard/system-requirements.html
- helpx.adobe.com/coldfusion/enterprise/system-requirements.html

- helpx.adobe.com/pdf/coldfusion2016-support-matrix.pdf (web servers, OS’s, DB’s supported)

- adobe.com/products/coldfusion-standard/buying-guide.html
- adobe.com/products/coldfusion-enterprise/buying-guide.html
And these whitepapers

- **CF2016 Security audit report:**
  - blogs.coldfusion.com/post.cfm/coldfusion-2016-release-security-audit-report

- **CF2016 Performance report:**

- **CF2016 lockdown guide:**

- **CF2016 migration guide:**
And still other resources for CF2016:

- Adobe CF team blog: blogs.coldfusion.com
- Anit (Dir of CF Support) blog: coldfusionsolution.wordpress.com
- My sites: cf411.com, cf911.com, cfupdate.com (and carehart.org)
  - I often link to the resources of others in the community, past/present
  - I can help you with any CF server troubleshooting/admin challenges
So, how many changes did we cover? Any guesses?
  ▶ I counted about 80! (not including bug fixes)
  ▶ As is often the case, most can name only a few

Hope you may be more motivated—and informed—to consider CF2016
  ▶ 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)

And hope you’ll stop by the FusionReactor booth …
FusionReactor Proud Sponsors of Adobe CF Government Summit
FusionReactor Highlights

- FusionReactor is the #1 Performance Monitor for Adobe ColdFusion
- FusionReactor launched in 2005 – Version 7 planned for release in 2017
- 5,000+ customers – in almost all industries and segments (incl. Government)
- 25,000+ Servers running FusionReactor in production
- Visit our booth for a demo, more information + Keep Calm mug
- All attendees are eligible for a special 30 day extended trial of FR Ultimate