

DIFFERENCES BETWEEN COLD FUSION ENTERPRISE & STANDARD

MORE THAN YOU MAY THINK

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- ▶ Most people can name only a couple or few differences
 - ▶ But there are many--dozens!
- ▶ And while there is indeed a large cost difference, you may find it worth it
 - ▶ You might even be able to *SAVE* money with what you learn today
- ▶ Or you may learn of some feature in Enterprise that could save your bacon

- ▶ Who am I? Quick intro
- ▶ Presentation slides available after session at my site

PREPARE TO BE SURPRISED

- ▶ Since I'm not here as a sales person, I'll do what they never would...
 - ▶ List price of CF Standard: US\$2,499
 - ▶ List price of CF Enterprise: US\$9,499
 - ▶ Discount for upgrading from prior release (only, from CF2016 to 2018)
 - ▶ We'll see if any changes when CF2020 comes out
- ▶ You can nearly always get a discount by buying from a reseller
 - ▶ Like buy-cf.com (aka buy-adobe-software.com, from makers of FusionReactor)
 - ▶ Currently offering **25% off** upgrade to CF 2018 from CF9, 10, 11!
 - ▶ Otherwise, normally about 5% off on any license (including upgrades)

THE ELEPHANT IN THE ROOM--PRICE

MAJOR DIFFERENCES

Most notable things that are Enterprise-only

- ▶ Perhaps the number one uniquely Ent-only feature most would name
 - ▶ Ability to create multiple instances on a single machine
 - ▶ Each with own admin, own jvm, own service, etc
 - ▶ As well as ability to cluster/load balance instances (local or remote ones)
 - ▶ And to replicate sessions between instances (or enable “sticky sessions”)
 - ▶ If using “j2ee sessions” feature in CF admin “memory variables” page
- ▶ Pros and cons to this feature set
- ▶ See helpx.adobe.com/coldfusion/configuring-administering/using-multiple-server-instances.html
- ▶ Alternative:
 - ▶ Can do clustering and load balancing outside of CF, of course (and with Std)
 - ▶ Note also that CF2016 added optional Redis session storage, in all editions
 - ▶ If NOT using “j2ee sessions” feature in CF admin “memory variables” page

MULTIPLE INSTANCES, CLUSTERING, ETC.

- ▶ Licensed ONLY with CF Enterprise (2016 and up)
- ▶ Not written in CF, nor running in CF, simply packaged with it (own installer)
- ▶ Adds
 - ▶ API version and lifecycle management
 - ▶ API rate limiting and throttling
 - ▶ API monitoring; access control; caching
 - ▶ API developer portal
 - ▶ SOAP to REST Translation, SOAP Gateway, and more
- ▶ See
 - ▶ helpx.adobe.com/coldfusion/api-manager/getting-started-coldfusion-api-manager.html
 - ▶ previous CFMeetup session by Dan Wilson, in late Aug 2020
- ▶ Alternatives? Yes, but tend to be very expensive

API MANAGER

- ▶ Can scan CFML code for vulnerabilities, recommends improvements
 - ▶ Added in CF2016
 - ▶ Works via CF Builder (2016 and up)
 - ▶ But requires CF Enterprise only (does not work even with Developer edition)
- ▶ I argue strongly that this should be available in Standard
- ▶ See helpx.adobe.com/coldfusion/using/security-enhancements.html
- ▶ Alternative? Fixinator from Pete Freitag and foundeo.com

SECURITY CODE ANALYZER

- ▶ New in CF2018 (Enterprise-only)
- ▶ Extends CF caching feature set beyond default of ehCache
- ▶ Can now store cache in redis or memcached (in Enterprise-only)
 - ▶ These can be distributed (installed on another server or servers)
 - ▶ CF Admin configuration page allows for configuration
 - ▶ Can override at app level
- ▶ Note that in all editions, yet another caching option is JCS (and ehCache)
- ▶ See coldfusion.adobe.com/2018/07/distributed-caching-coldfusion-2018-release

DISTRIBUTED CACHING

- ▶ Settings on Admin “Mail” page, affecting throughput of all cfmil processing
- ▶ **Mail Delivery Threads** - maximum # of simultaneous threads used to deliver spooled mail
- ▶ **Spool Mail Messages For Delivery To** - “**Memory**” spooling available for Enterprise Edition only
 - ▶ not to be confused with option to disable spooling, available in all (and the default, spool to disk)
- ▶ **Maximum Number Of Messages Spooled To Memory** - max # of messages that spool to memory before switching to disk spooling
- ▶ See trunkful.com/2017/11/27/ColdFusion-MailSpoolService-Performance
- ▶ These are truly enterprise-only...not even in Dev edition!
- ▶ Yet while docs indicate these as Ent-only, I found them in Standard in my testing
 - ▶ Backup Mail Servers
 - ▶ Maintain Connection To Mail

HIGH-VOLUME MAIL SENDING

OTHER DIFFERENCES

Less notable things that are Enterprise-only

- ▶ DB drivers for DB2, Oracle, Sybase
 - ▶ Technically, one can find 3rd party JDBC driver equivalents
- ▶ JEE deployment: deploying CF and CFML as EAR or WAR files
 - ▶ Impact on Commandbox: this is why it does not support Std for prod use
- ▶ Cluster support for web sockets
 - ▶ E.g.: Publish msg to all subscribers, across all nodes of a cluster setup
 - ▶ Checkbox in CF admin websockets page
 - ▶ adobe.com/devnet/coldfusion/articles/using-websocket.html#articlecontentAdobe_numberedheader_3
- ▶ Solaris is listed in docs as only in Enterprise, but did not test

ADMIN-ORIENTED ENT-ONLY FEATURES

- ▶ CFPDF DDX support (available since CF11)
- ▶ ORM text search (available since CF10)
- ▶ Solr data import handler (available since CF10)
- ▶ RSA FIPS 140-compliant strong cryptology
 - ▶ “algorithm” arg on encrypt/decrypt/hash/etc
 - ▶ See docs for details
- ▶ You may think, “well, that’s not too many differences” (13+)...we’re not done!

CODING-ORIENTED ENT-ONLY FEATURES

THINGS LIMITED IN STANDARD

But NOT limited in Enterprise



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- ▶ In CF8, a decision was made to allow “all” functionality in Std AND Ent
 - ▶ But a new limiter was imposed, for some (not all, nor even many) tags
 - ▶ Listed in “Buying Guide” docs as “restricted”, not by tag but by functionality
 - ▶ `cfdocument`, `cfpdf`, `cfpdfform`, `cfhtmltopdf`, `cfspreadsheet`, `cfprint`, `cfpresentation`
- ▶ With this limiter, only ONE REQUEST AT A TIME can run such a limited tag
 - ▶ All user users, wanting to run that tag, will wait (be queued) until first is done
 - ▶ Stack trace while running would show that queued request stopped here:
 - ▶ `coldfusion.featurerouter.edition.StandardServerEdition.acquireEnterpriseFeatureLock(StandardServerEdition.java:204)`
 - ▶ `- locked <0x1e9e5f6f> (a coldfusion.featurerouter.EFRContext)`
- ▶ This has been a real gotcha for many...let's demo it

ENTERPRISE FEATURE ROUTER - THE BIG GOTCHA

- ▶ “Request tuning” page in Admin
 - ▶ Std: only one "max simultaneous requests" limit, for all request types
 - ▶ Ent: can adjust limits for **each** request type (CFM page, CFC, Flash Remoting, and Web Service) independently
- ▶ CFThread limits (same page in Admin)
 - ▶ Std: max of 10 concurrent running threads
 - ▶ Ent: no limit

ADMIN/CONFIG-ORIENTED LIMITATIONS

SOME SURPRISES

Which may also be significant for you



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- ▶ CAR (ColdFusion ARchive feature)
 - ▶ Now in Standard since CF11
- ▶ Security sandbox feature
 - ▶ Now in Standard since CF11 (before, Std offered instance-wide "resource security")
- ▶ CF Admin User Manager (create multiple admin, RDS users)
 - ▶ Now in Standard since CF9
- ▶ Built-in CF monitoring
 - ▶ While CF Svr Mon was Ent-only from 8-2016, now CF2018 offers PMT in both editions
- ▶ Mail server config
 - ▶ Recall "backup mail servers" and "Maintain Connection To Mail" in my CF2018 Std
- ▶ ...

THINGS NO LONGER ENTERPRISE-ONLY

- ▶ Web sockets
 - ▶ Was originally indicated to be limited in Std to 5 sockets when CF 10 was released, soon lifted to 100
 - ▶ Since CF11, there are NO limits on websockets in CF Standard
- ▶ HTML5 charting
 - ▶ Was originally indicated to be ent-only when CF 10 was released, soon lifted
- ▶ 64-bit CF support
 - ▶ Now in Standard since CF9
- ▶ Event gateways
 - ▶ Now in Standard since CF8

THINGS NO LONGER ENTERPRISE-ONLY
(CONT.)

- ▶ Clustered scheduled tasks
- ▶ Storing session variables in local/distributed redis storage

THINGS YOU/OTHERS MAY THINK ARE
ENTERPRISE-ONLY, BUT ARE NOT

- ▶ Scheduled tasks:
 - ▶ misfire and exception handling
 - ▶ listeners, chaining
 - ▶ app-specific tasks
- ▶ Mail config:
 - ▶ Backup Mail Servers
 - ▶ Maintain Connection To Mail
- ▶ All event gateway types
- ▶ PDF archiving, redaction, sanitization, comments, attachments, stamps, etc.

THINGS LISTED AS ENTERPRISE-ONLY IN
DOCS/GUIDES, BUT I FOUND IN STANDARD

- ▶ Multisite restful services
- ▶ PDFg cluster support

THINGS LISTED AS ENTERPRISE-ONLY IN
DOCS, BUT I COULD NOT FIND AT ALL

- ▶ Again, as mentioned before...
- ▶ Security Analyzer
- ▶ Mail server config options
 - ▶ Mail Delivery Threads
 - ▶ Spool Mail Messages For Delivery To - "Memory" option
 - ▶ Maximum Number Of Messages Spooled To Memory

THINGS FOUND ONLY IN ENTERPRISE,
NOT EVEN DEVELOPER EDITION

LICENSING MATTERS

Considerations that may surprise you



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- ▶ I mentioned in a tweet yesterday that running Enterprise might **SAVE** you money
 - ▶ May have sounded like non-sense
 - ▶ Let's see...

MIGHT I BE ABLE TO SAVE YOU MONEY?

- Did you know that since CF2016, CF has been licensed based on cores?
 - Do you know how many you are running?
- Standard is licensed per 2 cores; Enterprise per 8 cores
- If you're running CF Standard on a 4-core machine, technically you should have bought 2 Standard licenses
 - And if an 8-core machine, you should have bought 4 Std licenses
 - Recall the list pricing: a single Enterprise license is just LESS than 4 Standards
- See sections 3.1.1 and 3.1.2 of the CF2018 EULA
 - As well as section 1.5 for definition of "core", vm's, etc.
- See coldfusion.adobe.com/2018/01/finding-the-eula-end-user-licensing-agreement-for-your-installed-cf-version/

CF LICENSING IS PER CORE—HOW MANY ARE YOU RUNNING?

- ▶ Back in CF9, Adobe changed policy to allow production license keys to be used on staging/test or shared dev machines
 - ▶ Terry Ryan wrote a famous blog post announcing this, and there was rejoicing
- ▶ Even today, some people buy CF licenses for test/dev/staging, and **may not need to!**...however...

DEV/TEST/STAGING SERVER LICENSING

- ▶ By CF2016, Adobe had tightened that freedom (section 3.2)
 - ▶ “For each **Enterprise License** of Software, obtained by Licensee pursuant to Section 3.1.1, Licensee gets the right to install and use the Software as Development Software.
 - ▶ If Licensee has obtained more than one license for **Standard** version of Software under section 3.1.2, Licensee may use one of such license as Development Software.”
- ▶ And see section 3.2.1 for the definition of “development software”, as for
 - ▶ “**testing, development, and staging** purposes, to be used and accessed by Authorized Users over the **Licensee’s Internal Network**”
- ▶ That said, make sure whether you NEED to be buying a license for dev/stage/test

DEV/TEST/STAGING SERVER LICENSING (CONT.)

- ▶ Adobe has offered CF Docker images for CF2016 and 2018, since 2017
- ▶ The license for those is...odd
 - ▶ “ColdFusion Enterprise Edition allows a maximum of eight containers to be used **for every Enterprise license**, provided the underlying instance is licensed as per the ColdFusion End User Licensing Agreement (EULA).”
 - ▶ “With ColdFusion **Standard** Edition, every containerized deployment needs to be licensed as per the ColdFusion End User Licensing Agreement (EULA).”
 - ▶ Strongly in favor of Enterprise, obviously (could improve in CF2020)
 - ▶ Development use is free, of course
- ▶ See coldfusion.adobe.com/2019/03/coldfusion-licensing-docker-containers/

ADOBE CF DOCKER IMAGE LICENSING

- ▶ Finally, here's one more bonus way you may save money
- ▶ Did you know that with every purchase of CF, you get CFBuilder free?
 - ▶ You get 3 CFB licenses with Enterprise, and 1 with Standard
- ▶ See helpx.adobe.com/coldfusion/builder/faq.html
- ▶ And even **if you're no fan of CF Builder**, Adobe has announced plans to recreate CFBuilder atop VSCode

- ▶ And with that, I count about 20 differences so far
 - ▶ Let's wrap up...

CFBUILDER LICENSING

WRAPPING UP



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- ▶ Not necessarily, certainly for dev/test, and **perhaps even for prod**
- ▶ Developer edition is free, of course
 - ▶ Offers nearly everything in Enterprise (only Security Analyzer held back)
 - ▶ Limited only in terms of number of IPs that can make requests until restart
 - ▶ Of course, not to be used in production
- ▶ Trial edition last 30 days, identical to Ent, but not to be used for prod
- ▶ Hosting companies offer CF Std or Ent (shared hosting, vps, Docker, etc.)
- ▶ Adobe offers Amazon AML (pay by hour)

DO YOU HAVE TO BUY ENT LICENSE TO
GET ENTERPRISE-ONLY FEATURES?

- ▶ There are various resources on the Adobe site that distinguish Ent & Std
 - ▶ adobe.com/products/coldfusion-family/buying-guide.html
 - ▶ Plainly lists what's in Ent vs Std, as of CF2018
 - ▶ **See also** adobe.com/products/coldfusion-enterprise/buying-guide.html
 - ▶ And adobe.com/products/coldfusion-standard/buying-guide.html
 - ▶ www.images.adobe.com/www.adobe.com/content/dam/acom/en/products/coldfusion/pdfs/cf2016/ColdFusion_2016_buying_guide.pdf
 - ▶ Despite file name and path, does cover 2018 as well
 - ▶ helpx.adobe.com/pdf/coldfusion2018-support-matrix.pdf
 - ▶ Shows OS and DB driver differences
- ▶ These resources are not always consistent/accurate/up-to-date
 - ▶ I plan to create bug reports, perhaps a blog post identifying these

HOW WOULD YOU FIND THESE DIFFERENCES?

- ▶ So in summary, there's a LOT more to the differences than most would think
- ▶ Key features unique to Enterprise:
 - ▶ Scalability: instances, clustering, load balancing, session replication, EAR/WAR
 - ▶ API Manager: manage, monitor, throttle, secure APIs
 - ▶ Security analyzer (I'd argue it should be in Standard)
 - ▶ Distributed caching feature
 - ▶ High-volume mail sending
 - ▶ CF Ent Svr Mon (for those on CF2016 and earlier. PMT on all editions of 2018)
 - ▶ DB drivers for Oracle, DB2, Sybase
 - ▶ Cluster support for websockets
 - ▶ ...

SUMMARY

- ▶ And still more “advantages” to Enterprise:
 - ▶ ORM search, enhancements to scheduled tasks, more encryption, PDF DDX, etc
 - ▶ Lifting of EFR limitations on tags like cfdocument, cfpdf, cfspreadsheet, cfprint
 - ▶ Lifting of limits like number of cfthread threads; enabling limits by type of request thread
 - ▶ “Bonuses”: core counts, license counts for dev/test servers, Docker, CFBuilder
- ▶ That said, some things that were previously enterprise-only no longer are
 - ▶ And alternatives do exist for some features, for use in Standard (or Lucee)
- ▶ Remember current 25% discounted price of CF upgrades from 9/10/11 at buy-cf.com
- ▶ Hope you may feel you have learned a lot today
- ▶ Reach out to me with questions (see bottom right)

SUMMARY (CONT.)