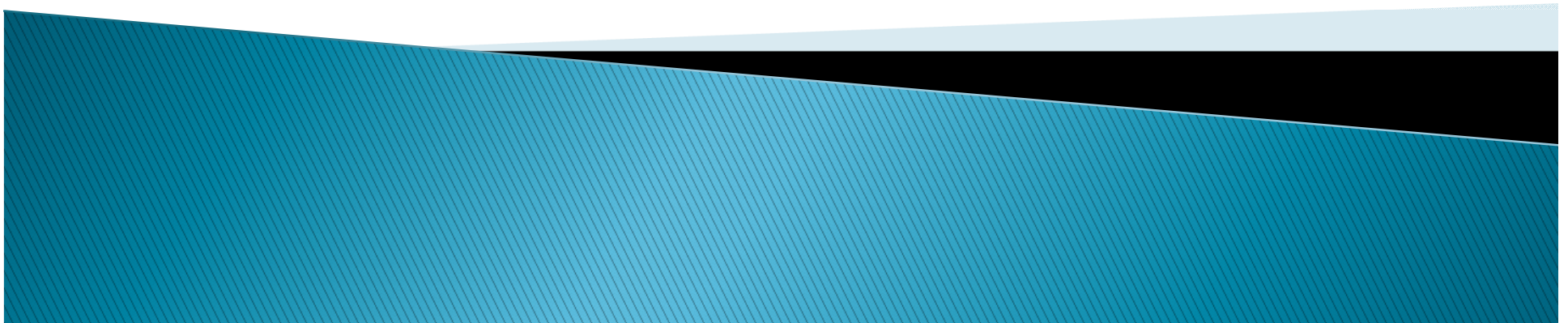


10 Things That Plague Most CF Servers

(updated December 12, 2012)

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Intro

- ▶ Talk reflects my years of focusing on CF server troubleshooting
 - As an independent consultant
 - Working remotely with dozens of customers a week
- ▶ Topics nearly all apply to CF10, 9, and 8
 - Some concepts also apply to Railo, BlueDragon
- ▶ Lots to cover even in an hour
 - Will often only touch tip of iceberg, point to resources with more details
- ▶ Presentation available online
 - www.carehart.org/presentations

About Charlie Arehart

Independent Consultant

- 15 yrs CF exp. (30 in Enterprise IT)
- Certified Adv CF Developer, Instructor
- Adobe Forum MVP, CF CAB member
- Frequent speaker to conf's worldwide
- Organizer, Online ColdFusion Meetup (coldfusionmeetup.com), 2800+ members
- Living in Alpharetta, Georgia (Atlanta)

Web home at www.carehart.org

- 100 presentations, 80 articles, 400 blog entries
- UGTV: recordings of 600 presos by 300 speakers
- CF411.com: 1800 tools/resources, 150 categories
- CF911.com: CF server troubleshooting resources
- Hosting courtesy of EdgeWeb Hosting
- Consulting: available for CF troubleshooting, tuning
 - Remote/on-site; on-demand, single instance ok

#10: Problems with hotfixes

- ▶ For CF9/8
 - Failure to apply them at all
 - Misinterpreting if installed
 - Applying them incorrectly
- ▶ For CF10
 - Important to apply updaters, especially 4 and 5
 - Many fail to re-create web config
 - Some folks need more info, like offline access

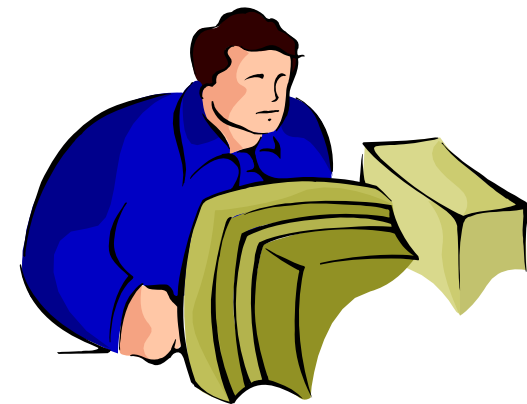


#10: Resources

- ▶ <http://www.krishnap.com/2012/09/coldfusion-10-hotfix-update-installer.html>
- ▶ http://www.carehart.org/blog/client/index.cfm/2011/10/21/why_chfs_may_break
- ▶ http://www.carehart.org/blog/client/index.cfm/2010/12/12/cfmyths_cumulative_hotfixes
- ▶ http://www.carehart.org/blog/client/index.cfm/2010/12/11/cfmyths_latest_installer_includes_all_updates
- ▶ <http://www.cf911.com/wiki/index.cfm/Hotfixes>

#9: Coding surprises can burn you

- ▶ CFIMAGE action='resize' can be killer slow
 - Use imageresize() or ImageScaleToFit() instead
 - Setting InterpolationMethod to lower quality
 - CF10 adds interpolation attribute to CFIMAGE
- ▶ CFDOCUMENT can be killer slow
 - Use Localurl attribute if appropriate
- ▶ Also, EFR (Enterprise Feature Router) throttle on CF Standard



#9: Resources

- ▶ http://www.carehart.org/blog/client/index.cfm/2012/5/28/cf_image_resizing_problem_and_solution
- ▶ http://help.adobe.com/en_US/ColdFusion/9.0/Developing/WSc3ff6d0ea77859461172e0811cbec12207-7fec.html#WSc3ff6d0ea77859461172e0811cbec12207-7fdc
- ▶ http://www.carehart.org/blog/client/index.cfm/2011/11/19/perf_fix_via_cf_document_localurl_attribute
- ▶ <http://www.adobe.com/products/coldfusion-family/buying-guide.displayTab3.html> (see features listed as "restricted" for Standard)
- ▶ http://www.cf911.com/wiki/index.cfm/CFML_Coding_Techniques

#8: Maxworkerthreads setting

- ▶ For those on CF9 with IIS
 - Real problem if you want to run more than 20 concurrent requests
 - (regardless of “max simultaneous requests” setting)
- ▶ You need to uncomment, change setting in `jrun_iis6_wildcard.ini`
 - See blog entry for more details



#8: Resources

- ▶ http://blogs.adobe.com/cfdoc/2009/12/iis_6_for_coldfusion_9_increasing_the_number_of_worker_threads.html
- ▶ http://www.carehart.org/blog/client/index.cfm/2011/2/2/iis_request_execution_limits
- ▶ http://www.cf911.com/wiki/index.cfm/Web_Server_Configuration

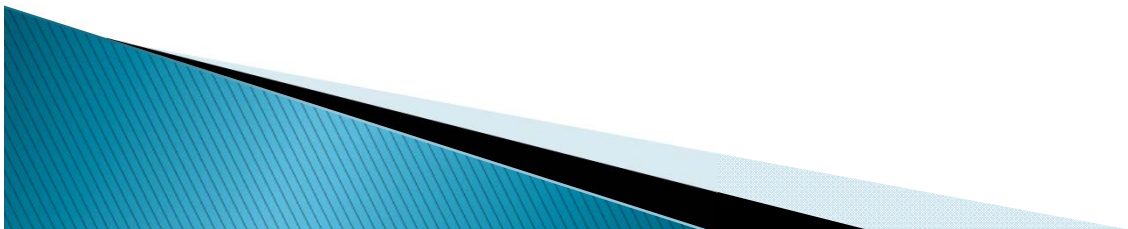
#7: Error handlers gone wild

- ▶ Beware error handlers that may get called way more often than you realize
 - Whether CF error handlers, CF missing template handlers, web server configured to pass 404s to CF
 - Tempting for error handling flexibility
- ▶ Problem is: may be overwhelming to CF
 - Especially failures from spiders, bots
 - And non-html extension requests
 - All the more if you ignore emails/logs



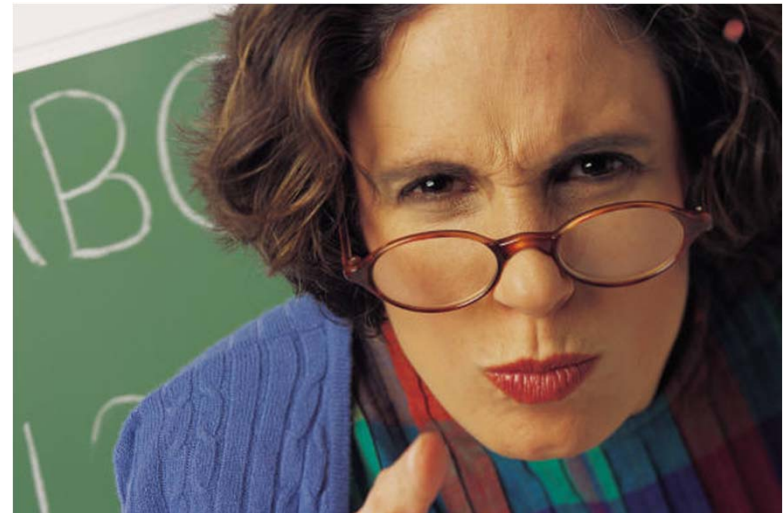
#7 Resources

- ▶ None yet



#6: Leaving CF Admin defaults

- ▶ Something you may have heard before
 - But perhaps different emphasis than you've heard
- ▶ Let's consider several subpoints...



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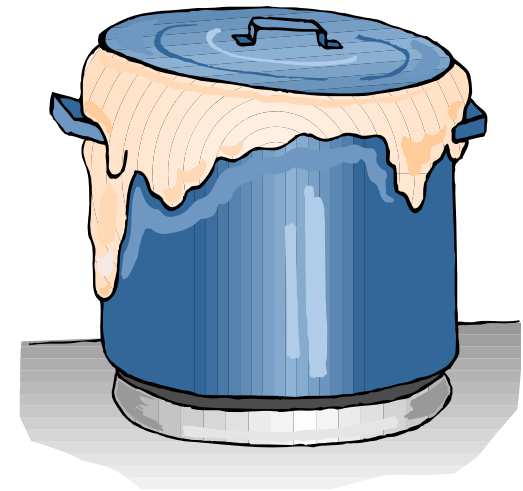
#6A: Inadequate query cache size

- ▶ If not sufficient, real DB I/O's still happen
 - Default size is 100
 - Can be filled by just one CFQUERY w/ dynamic SQL
- ▶ Monitoring size
 - CF Enterprise Server Monitor
 - Available in CF 8–10 Enterprise only
 - FusionReactor FREC plugin
 - More on this, later



#6B: Inadequate template cache size

- ▶ If not sufficient, template reloading can be burden on server
 - Default size is 1024
 - “Save Classes” can help determine size
- ▶ Monitoring size
 - CF Enterprise Server Monitor
 - FusionReactor FREC plugin



#6C: Client variables can kill

- ▶ Not about whether you USE them
 - Just whether they are enabled in your apps!
- ▶ Every page request updates repo by default
 - Bots create new entry per request
- ▶ Default storage of registry kills
 - Hardly better when in DB
 - CF10 changes default on new installs to use “cookie”



#6D: Memory settings and misunderstandings

- ▶ Just because memory is high does not mean CF will crash!
- ▶ Tools:
 - CF Enterprise Server Monitor (no “start” buttons required)
 - FusionReactor, SeeFusion, and more. Also CF “out” logs for errors
- ▶ Not all outofmemory errors are same
 - For some of them, increasing heap is NOT the answer!



#6 Resources

▶ Query, Template Cache

- <http://www.carehart.org/cf911/wiki/index.cfm/Caching>
 - None of those really targeted at the problems, though

▶ Client variables

- http://www.carehart.org/blog/client/index.cfm/2006/10/4/bots_and_spiders_and_poor_CF_performance
- http://www.cf911.com/wiki/index.cfm/Client_Variable_Troubleshooting

▶ Memory

- http://www.carehart.org/blog/client/index.cfm/2010/11/3/when_memory_problems_arent_what_they_seem_part_1
- http://www.carehart.org/cf911/wiki/index.cfm/High_Memory%2FMemory_Errors

#5: Not knowing # of sessions

- ▶ May be stunned to know how many active
 - Frequent cause of seeming CF “memory leak”
- ▶ See CF Enterprise Server Monitor
- ▶ Also free ServerStats or CFTracker tools otherwise
- ▶ Now FusionReactor 4 FREC plugin log



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#5 Resources

- ▶ http://www.carehart.org/blog/client/index.cfm/2009/1/22/tracking_count_of_sessions_per_application

#4: Remaining blind to running requests (counts, details)

- ▶ Again, many subpoints...
- ▶ 4.1: Knowing how many are running, queued
 - Vital to know whether CF is “busy” or not, why
- ▶ Tools
 - CFSTAT, JRun Metrics, CFTracker
 - CF Server Monitor (does not require any “start” buttons)
 - FusionReactor, SeeFusion



#4: Remaining blind to running request counts, details (cont.)

- ▶ 4.2: Getting details of running requests
 - To know what a long-running request is doing
 - URL, duration, IP address, and much more
 - Optionally, details of all queries
- ▶ Tools
 - CF Server Monitor (requires “start monitoring”)
 - FusionReactor, SeeFusion
 - For queries:
 - In CFSM, need to “start profiling”
 - In FR, SF, need to use “JDBC wrapping”



#4: Remaining blind to running request counts, details (cont.)

- ▶ 4.3: Obtaining stack trace
 - Can know currently executing line number of long-running request!
- ▶ Tools
 - CF Server Monitor, FusionReactor, SeeFusion
 - JVM tools



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#4: Remaining blind to running request counts, details (cont.)

- ▶ 4.4: Obtaining details by email
 - Since you can't always be online to do stack trace
 - Can obtain by email, when alert condition arises
- ▶ Tools
 - CF Server Monitor
 - Alerts (require “start monitoring”)
 - FusionReactor “CP alerts”
 - SeeFusion “monitoring rules”



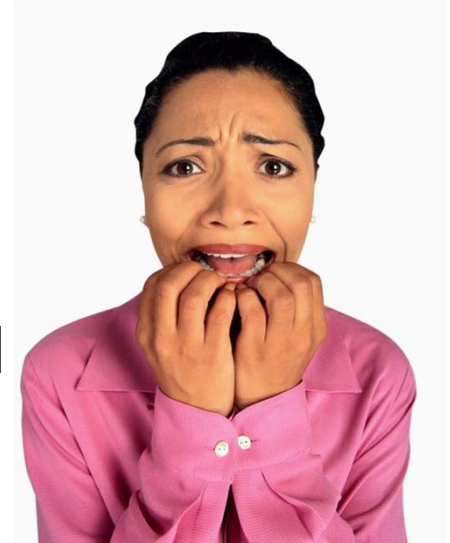
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#4 Resources

- ▶ http://www.carehart.org/blog/client/index.cfm/2009/6/24/easier_thread_dumps
- ▶ http://www.carehart.org/blog/client/index.cfm/2008/7/22/fusionreactor_datasource_monitoring
- ▶ http://www.carehart.org/blog/client/index.cfm/2010/10/15/Lies_damned_lies_and_CF_timeouts
- ▶ http://www.carehart.org/blog/client/index.cfm/2008/10/31/cf911_requests_not_responding
- ▶ http://www.carehart.org/blog/client/index.cfm/2009/11/14/spy_on_orm
- ▶ http://www.carehart.org/cf911/wiki/index.cfm/ColdFusion_Monitoring
- ▶ http://www.carehart.org/cf911/wiki/index.cfm/Server_Hung

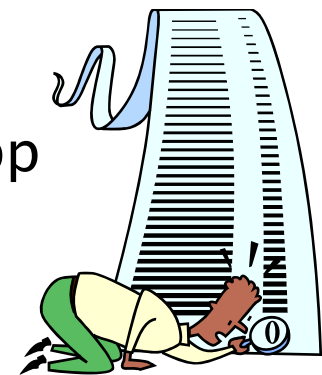
#3: Not leveraging CF monitoring tools you have

- ▶ 3.1: Misunderstanding “impact” of CF Server Monitor
 - No impact at all, if no “start” buttons enabled
 - But if enabled, they remain on if monitor is closed, and over CF restarts
 - “start memory tracking” can kill, “start profiling” has less overhead, “start monitoring” has least overhead



#3: Not leveraging CF monitoring tools you have (cont.)

- ▶ 3.2 Not leveraging FusionReactor fully
 - Don't miss the marvelous logs it creates
 - Consider FusionAnalytics to help analyze things
 - Don't miss FREC (CF Extensions) if using FR4 to see things otherwise only in CF Server Monitor
 - And even if on CF Standard!
 - FR can monitor not just CF
 - but Railo/BD/OBD and any JEE server or app



#3 Resources

- ▶ http://www.carehart.org/blog/client/index.cfm/2008/7/30/45page_server_monitor_guide
- ▶ http://www.carehart.org/blog/client/index.cfm/2012/2/24/CF_Server_Monitor_start_buttons_remain_enabled
- ▶ <http://www.carehart.org/blog/client/index.cfm/2012/2/24/CF911-Stopping-the-ColdFusion-Server-Monitor-start-buttons-when-you-cant-get-into-the-Monitor>
- ▶ http://www.carehart.org/cf911/wiki/index.cfm/ColdFusion_Server_Monitor
- ▶ http://www.carehart.org/blog/client/index.cfm/2012/2/27/recording_of_my_adobe_eseminar_on_FusionReactor

#2: Not understanding impact of spiders, bots

- ▶ These really can be killing you
 - Have mentioned impact many times
- ▶ And really any frequent automated requests
 - Status/health checks, security scans, scheduled tasks, and more
 - ...



#2: Not understanding impact of spiders, bots (cont.)

- ▶ Solutions beyond robots.txt
 - Throttle frequency of requests
 - Lower sessiontimeout for automated requests, or kill session in onsessionend for application.cfc
 - Review code run on “new session” to assess impact

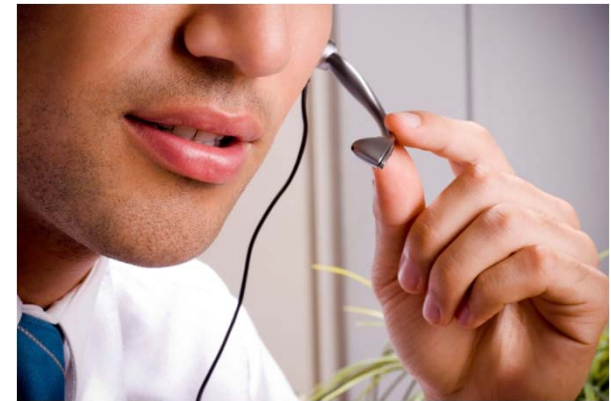


#2 Resources

- ▶ <http://www.carehart.org/presentations/#sessclicrash>
- ▶ http://www.carehart.org/blog/client/index.cfm/2006/10/4/bots_and_spiders_and_poor_CF_performance
- ▶ http://www.carehart.org/cf911/wiki/index.cfm/Client_Variable_Troubleshooting

#1: Not seeking troubleshooting help

- ▶ Have pointed out just a couple dozen problems
 - When stuff hits the fan, will you remember it all?
- ▶ Several folks in CF community offer remote support
 - Myself included
 - See cf411.com/cfconsult for links to them



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What did I not discuss?

- ▶ I can think of a few things
 - JVM tuning
 - Changing GC algorithms
 - Tuning SQL
- ▶ What things might you think I missed?

Summary

- ▶ #10 Problems with hotfixes
- ▶ #9 Coding surprises can burn you
- ▶ #8 Maxworkerthreads setting
- ▶ #7 Error handlers gone wild
- ▶ #6 Leaving CF Admin defaults (cache sizes, client vars, memory)
- ▶ #5 Not knowing # of sessions
- ▶ #4 Remaining blind to running requests
- ▶ #3 Not leveraging CF monitoring tools you have
- ▶ #2 Not understanding impact of spiders, bots
- ▶ #1 Not seeking troubleshooting help

Summary

- ▶ Remember: the presentation is online
- ▶ And let me know if I can ever help with:
 - CF server troubleshooting, tuning, config, etc.
 - charlie@carehart.org
 - www.carehart.org, www.cf911.com (and cf411.com)
 - [@carehart](#), [@cf911](#)