10 Things That Plague Most CF Servers

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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.carehart.org/blog/client/index.cfm/2010/12/12/cfmyths_cumulative_hotfixes](http://www.carehart.org/blog/client/index.cfm/2010/12/12/cfmyths_cumulative_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://help.adobe.com/en_US/ColdFusion/9.0/Developing/WSc3ff6d0ea77859461172e0811cbec12207-7fec.html#WSc3ff6d0ea77859461172e0811cbec12207-7fdc](http://help.adobe.com/en_US/ColdFusion/9.0/Developing/WSc3ff6d0ea77859461172e0811cbec12207-7fec.html#WSc3ff6d0ea77859461172e0811cbec12207-7fdc)


#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://www.carehart.org/blog/client/index.cfm/2011/2/2/iis_request_execution_limits
#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
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...
#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 a 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**
    - None of those really targeted at the problems, though

- **Client variables**

- **Memory**
  - 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
#5 Resources

#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
4.2: 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
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”
#4 Resources

- 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
#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
#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
    - ...

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#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/presentations/#sessclicrash)
#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
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
    - @carehart, @cf911