FusionReactor Webinar:

What's new in FusionReactor 7 and 7.1

INTERGRAL
information solutions

fusion reactor™

Introductions

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(Focused on server troubleshooting)

Agenda

- Foreword
- About FR 7 and 7.1
- What's new, what's improved
- About FR Cloud
- Resources for learning more
- Questions & answers

Foreword

- Audience: presumed to already be using FR
  - May be using 7/7.1, but perhaps not using the latest features to fullest extent
  - May be using FR 6 or earlier, wondering what's new in latest releases
  - Even FR newcomers should be able to follow along (but see other webinars for more)
- Concepts apply generally to any Java/CFML server that FR can monitor
- Preso is being recorded, so you will be able to revisit details

About FR 7 and 7.1

- FR7 came out in July 2017, and 7.1 in Oct 2017
  - Will describe things as they are now available in 7.1 (more on updating to it in a moment)
- Not only new features, but also improvements to existing ones
  - We will cover many (though not all) of these new and improved features
- FR 7 also marked production release of FusionReactor Cloud
  - We'll conclude with a brief introduction to that
  - Covered already in-depth in another full webinar earlier in 2017
- Updating to FR 7.1
  - Users with current FR 7 subscriptions or paid maintenance can upgrade to 7.1 for free
  - If FR was installed with installer, simply download and run 7.1 installer to update in place
    - Otherwise if FR was installed by implementing JAR, simply download and put in place the 7.1 jar
  - Last update of 7.0 was 7.0.8

FR 7 and 7.1 added many new features

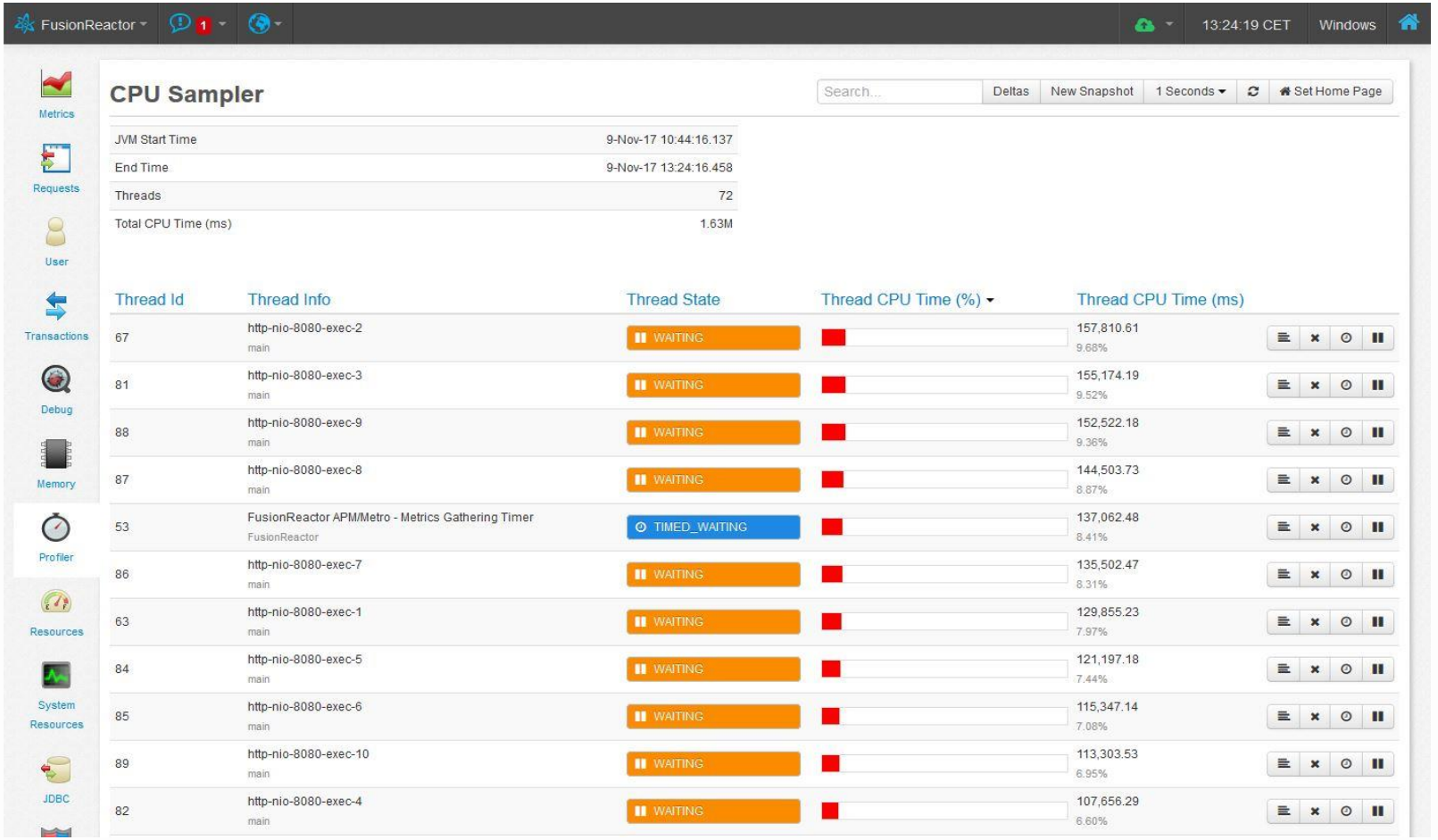
- Among new features, those which we will cover today:
  - CPU profiling/sampler
  - Thread visualization
  - Memory/heap profiling
  - JMX metric monitoring
  - AWS CloudWatch integration
- Note that while some of these are available via JVM tools
  - Note that with FR, all these things are accessed within browser
  - And no need of special JVM configuration, or opening special ports
  - Of course, FR as a web app is secure
    - FR login required to access FR
    - Non-standard ports used for FR's built-in web server

FR 7 and 7.1 added many enhancements

- And among those improvements to existing features that we will cover today:
  - Enhanced tracking of request/query errors, and of calls to external resources
  - Improvements to the interactive step debugger
  - Auto detection of datasource names
  - Support for more CFML and Java frameworks
  - Support for NoSQL data stores, streaming platforms like Apache Kafka
  - and more
- Let's dig in…

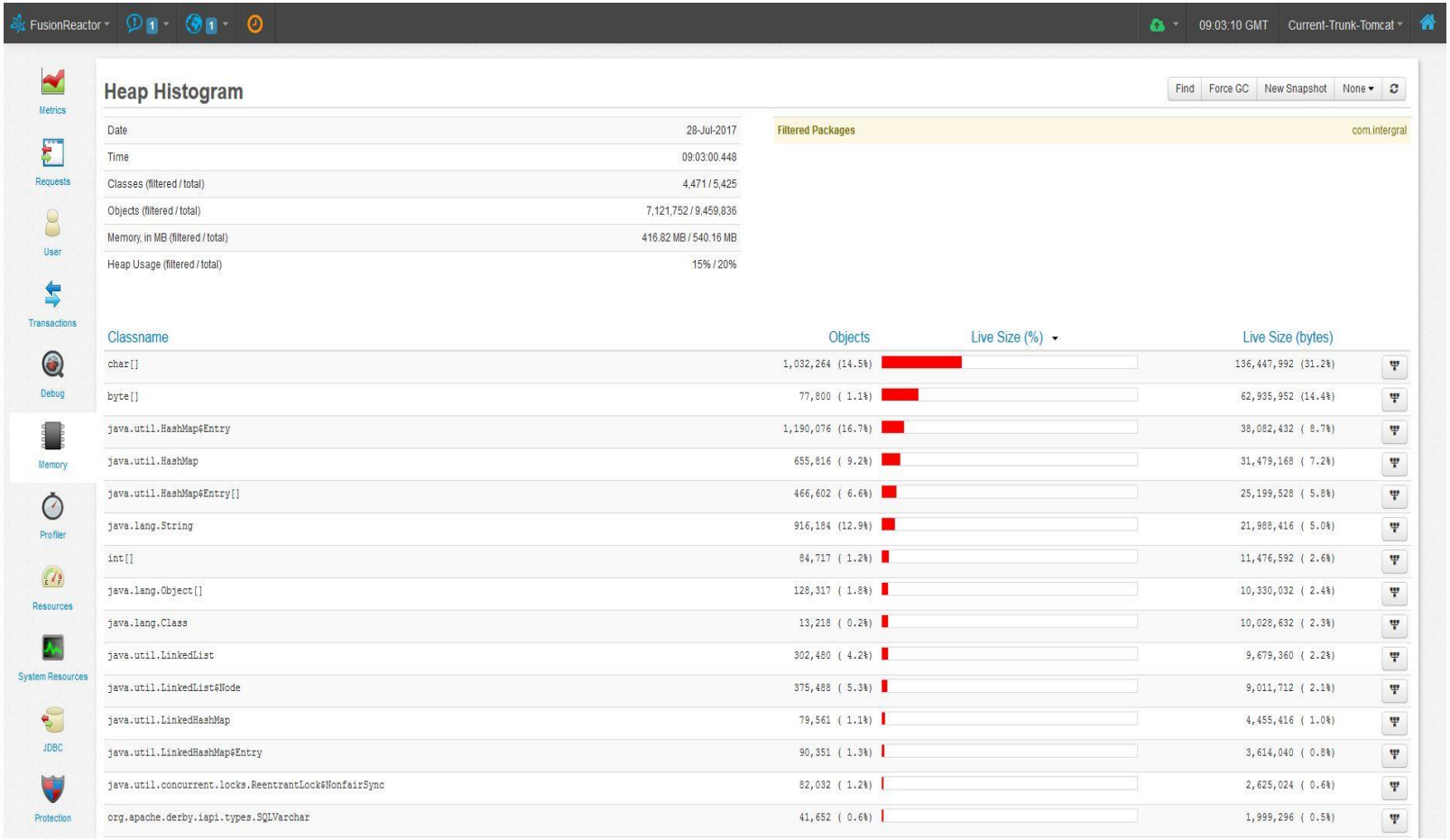
New Features in 7/7.1

CPU profiling/sampler (7.1)

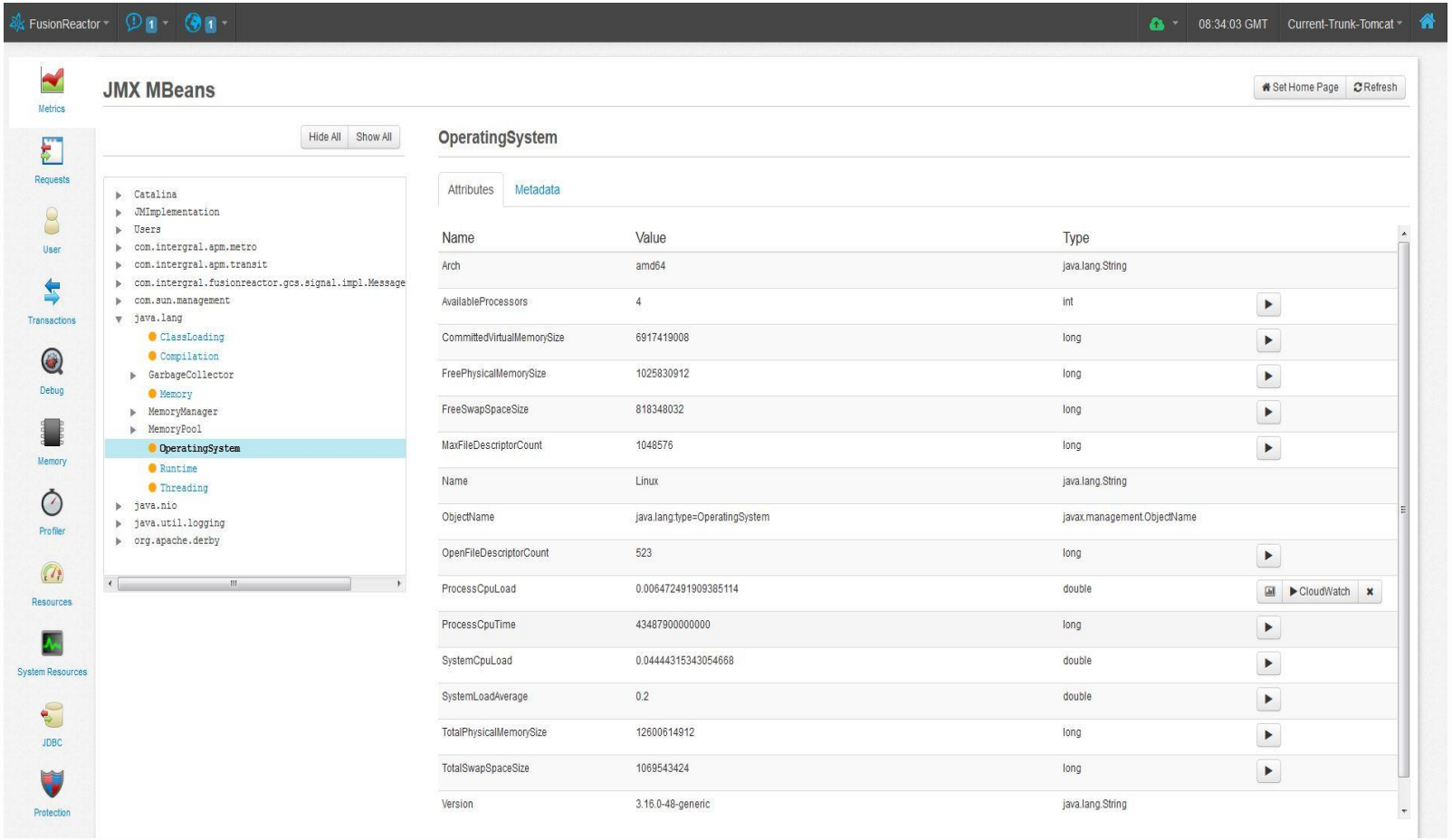


Thread visualization (7.1)

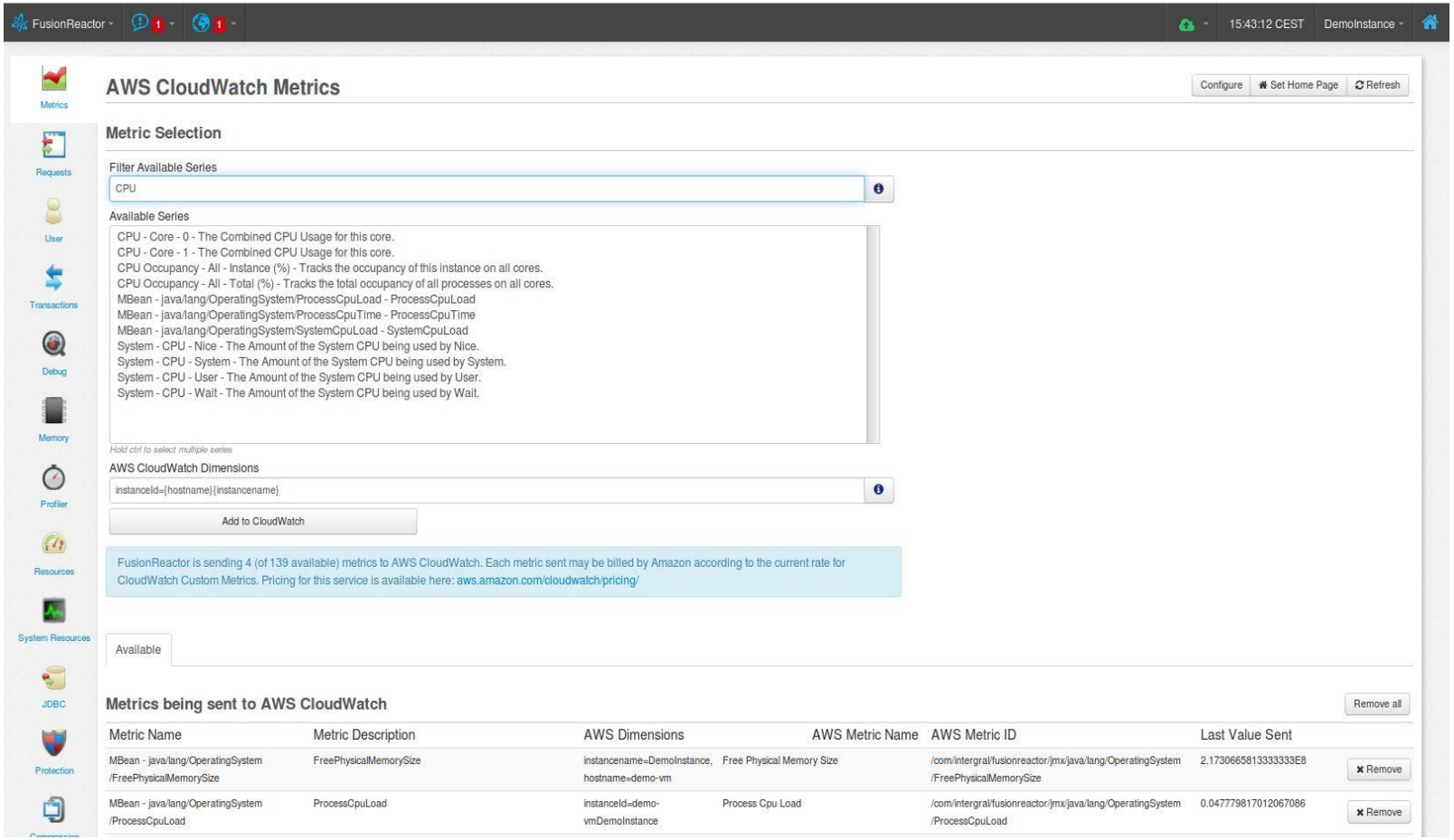
Heap profiling (7.0)



JMX metric monitoring (7.0)



AWS CloudWatch integration (7.0)



Enhancements in 7/7.1

Let's look at a few

- Enhanced tracking of request and query errors
  - New "Error" pages/links on left nav bar "Requests" and "JDBC" menus
  - New depiction of error counts in Metrics>Web Metrics and other time graphs
- Enhanced tracking of calls to external resources (new on "Transactions" menu)
- Auto detection of datasource names (no longer must use connectionstring)
- Support for Docker detection and reporting
  - https://docs.fusion-reactor.com/display/FR70/Using+FusionReactor+in+Docker
  - https://www.fusion-reactor.com/news/screencast-intro-to-fusionreactor-cloud-docker-swarm-demo-brad-wood/
- Ability to pause requests (really a facet of using FR Ultimate's step debugger) …

Improvements to the interactive step debugger

- Simplified breakpoint settings: can now pause/debug a request while running
  - Without need to set a breakpoint in advance
  - Can also debug threads, from FR pages showing running threads
- Improved UI: easier to view variables, also new option to watch variables
- Ability to step through stack frames (and see variables at that point in past)
- New and more helpful information when triggers are pending
- Again, the debugger runs in the browser, not in any IDE
- Resources:
  - https://www.fusion-reactor.com/webinar/getting-the-most-out-of-fusionreactor-ultimate-identifying-the-most-elusive-issues/
  - https://www.fusion-reactor.com/blog/why-every-developer-needs-fusionreactors-production-debugger/

Support for new platforms

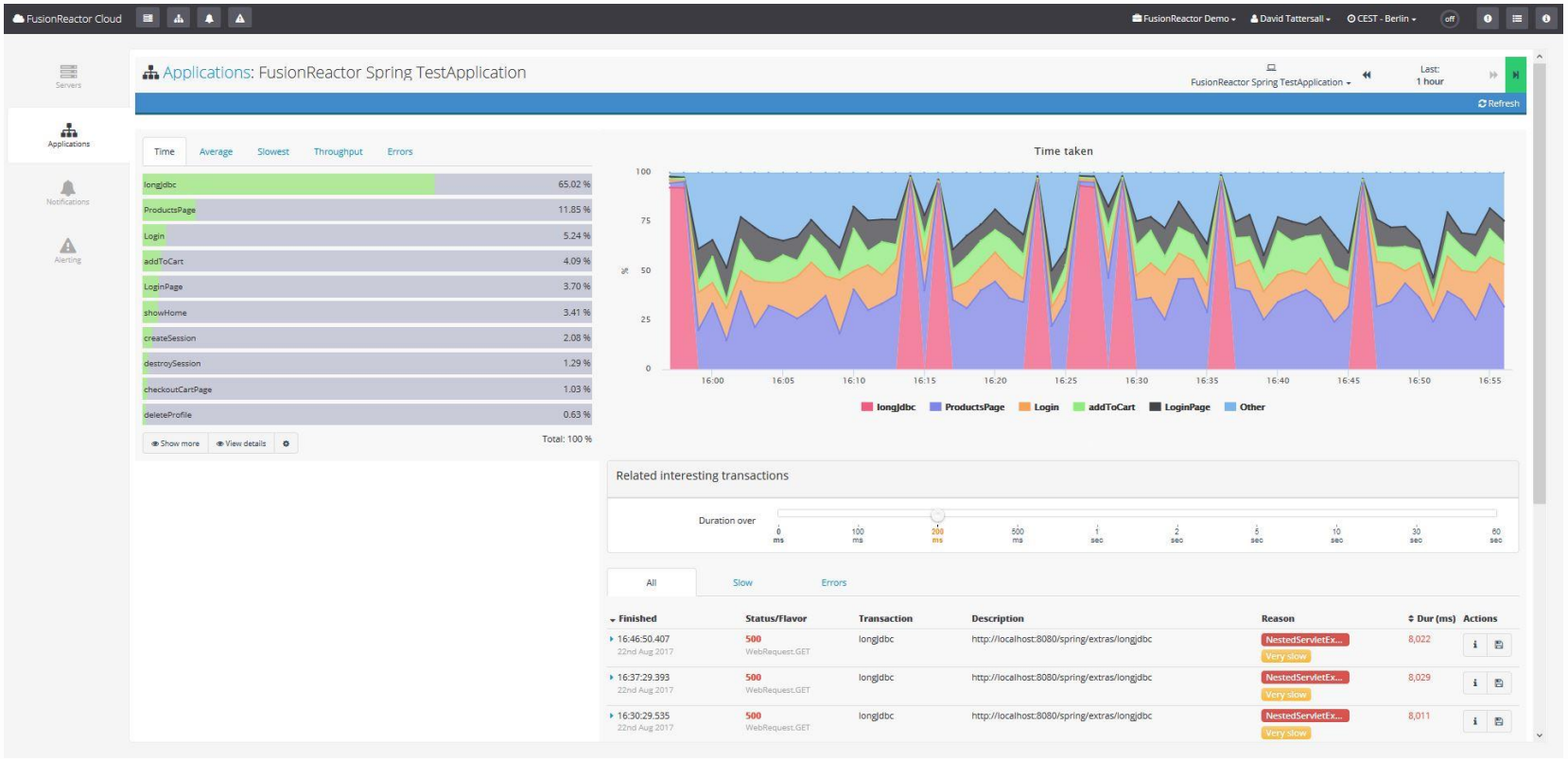
- Support for more CFML and Java frameworks
  - Already supported **in CFML**: ColdBox, ; **in Java:** Struts, Spring, Play
  - Added support (in FR 7.0) for FW/1, Fusebox
- Support for NoSQL data stores
  - Mongo, Cassandra , Redisson
- Support for streaming platforms like Apache Kafka
  - https://www.fusion-reactor.com/evangelism/monitoring-kafka-consumer-applications/

Still other enhancements

- In FR 7.1
  - Link to FR Cloud now offered within cloud icon/menu (for FR cloud customers)
  - Better explanation when a requested page is gone from FR request history
  - Websocket compression for data travelling to FusionReactor Cloud
  - Initial support for Clojure instrumentation
- In FR 7.0
  - Improved control over transaction naming, framework detection
    - https://docs.fusion-reactor.com/display/FR71/Settings#Settings-TransactionNamingTransactionNaming
  - Automatically obfuscates data which matches credit card number format
  - Support for "line performance" in Lucee
  - Improvements to manual license activation process
- Still more, including perf improvements and 115 bug fixes between 7.0-7.0.8 and in 7.1
  - Listed here: https://www.fusion-reactor.com/support/kb/frs-431/

FR Cloud released

FusionReactor CLOUD...



FusionReactor CLOUD (cont.)

- Cloud-based repository and interface alternative
  - Gives you all the benefits of FR on-premise plus extended data retention, application metrics and advanced alerting capability
- Historical metric data retention (up to 90 days)
- Enhanced alerting
  - Can alert on many more conditions than FR on-premise
  - Integration with alerting platforms such as PagerDuty, Slack, HipChat, and more
- More:
  - https://www.fusion-reactor.com/fusionreactor-cloud/
  - https://www.fusion-reactor.com/webinar/fusionreactor-cloud/

Resources

- Regarding FR 7/7/1, besides the online documentation, see also:
  - https://www.fusion-reactor.com/news/announcing-fusionreactor-7/
  - FR 7 Release notes : https://www.fusion-reactor.com/support/kb/frs-431/
  - https://www.fusion-reactor.com/production-java-profiler/
  - https://www.fusion-reactor.com/memory-profiler/
  - https://www.fusion-reactor.com/production-debugger
  - https://www.fusion-reactor.com/feature-panel

Conclusion

- Many new and improved features in FusionReactor 7 and 7.1
  - These extend FR's long-existing powers to help with troubleshooting, tuning, problem resolution
  - Powerful features like heap and cpu profiling, jmx metrics, etc
- Again, all these new features are accessed within the browser
  - No need of other JVM tools or related jvm configuration
- And enhancements to previously existing features
  - Always watch out for ways old features may have been vastly improved
- Updating is free for those on subscription or with current maintenance
  - Is an in-place upgrade from prior releases

Other webinars

- www.fusion-reactor.com/webinars
  - Register for any newly added ones
  - Watch recordings of past ones

Other FR resources

- **FR web site: fusion-reactor.com**
  - Downloads
  - Docs, videos, technotes, forums, and much more
- **Email: sales@fusion-reactor.com, support@fusion-reactor.com**
- **Phone: (978) 496-9990 (sales)**
- **Consulting assistance: cfconsultant.com**
- We welcome your feedback on these or the other webinars, or any you would like to see

Questions & Answers