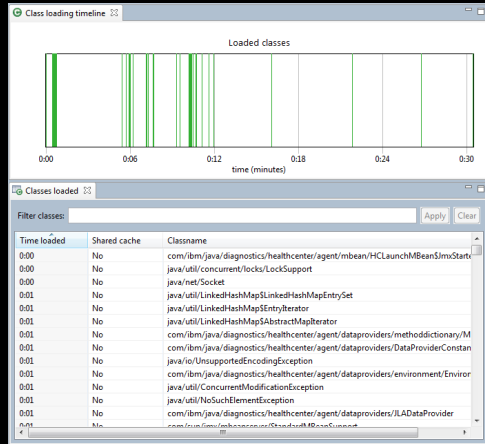




Health Center overview

- What problem am I solving?
 - What is my JVM doing? Is everything ok?
 - Why is my application running slowly? Why is it not scaling?
 - Am I using the right options?
- Live monitoring tool with very low overhead
- Understand how your application is behaving
 - Monitor Class loading, File I/O, Environment settings, Garbage Collection, Method Profiling, Locking, Native memory use, Threads
- Diagnose potential problems, with recommendations
- Works at the JVM level
- Suitable for all Java applications

Health Center overview cont...

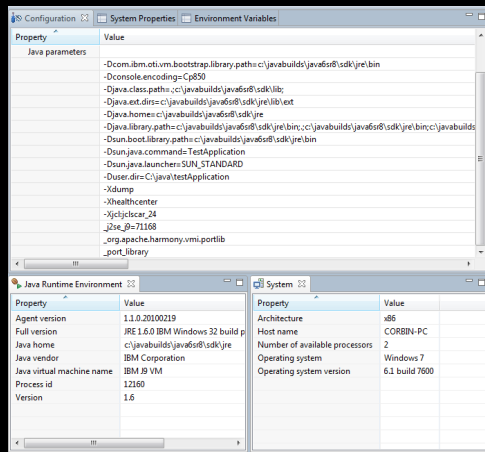
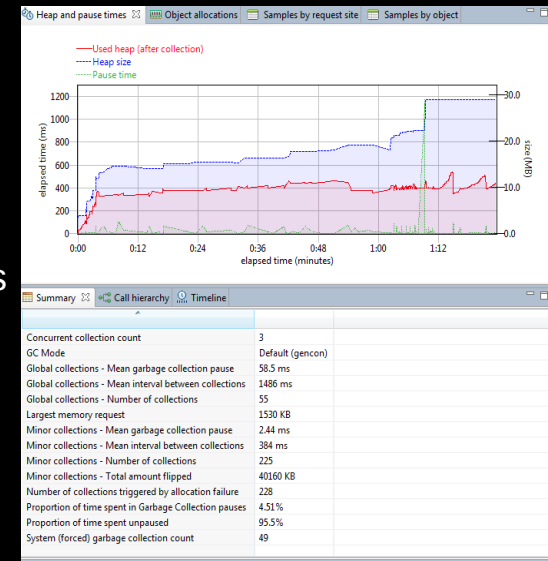


Class loading visualization

- Shows all loaded classes
- Shows load time
- Identifies shared classes

Garbage Collection visualization

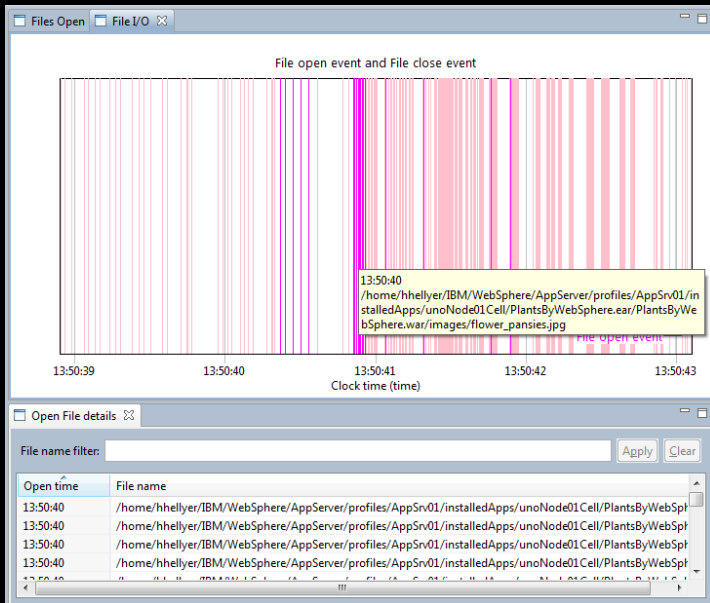
- Visualizes heap usage and gc pause times over time
- Identifies memory leaks
- Suggests command-line and tuning parameters
- Same recommendation logic as GCMV



Environment reporting

- Detects invalid Java options
- Detects options which may hurt performance or serviceability
- Useful for remote diagnosis of configuration-related problems

Health Center overview cont...

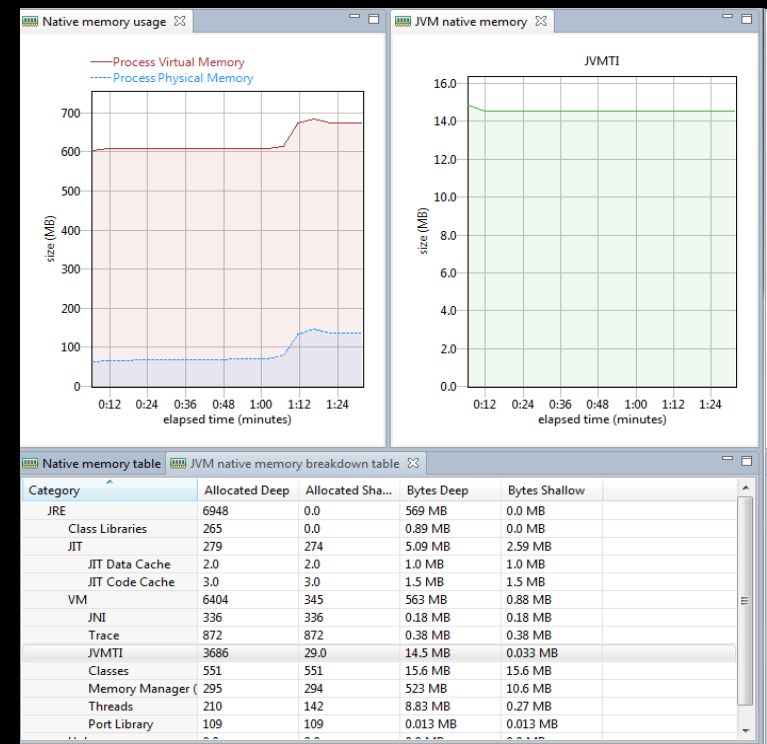


I/O

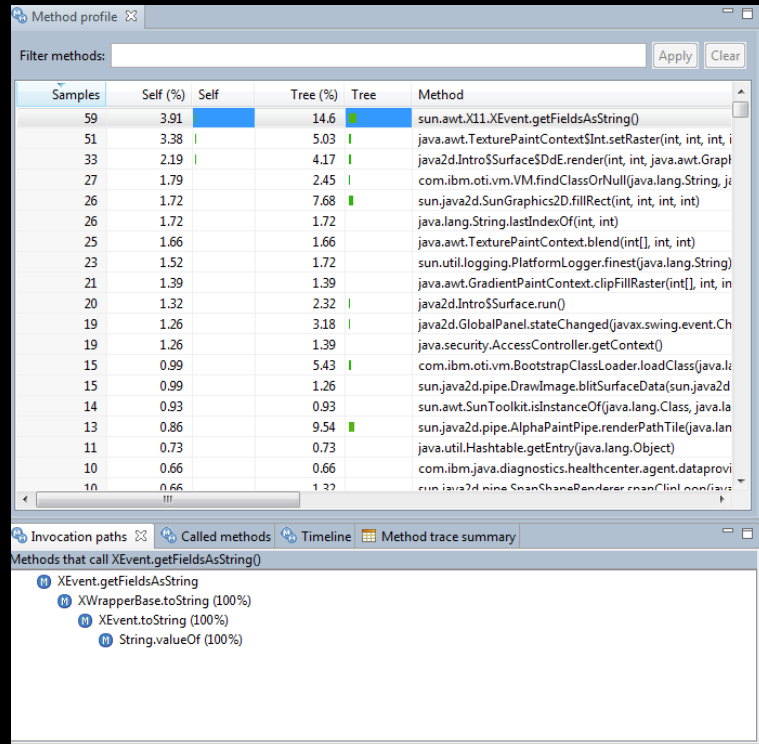
- Monitor application file open/close events as they occur
- Lists currently open files

Native Memory

- Detect native memory leaks in application
- Determine if external forces are using more memory
- Memory counters showing which parts of the JVM are using the most native memory



Health Center overview cont...

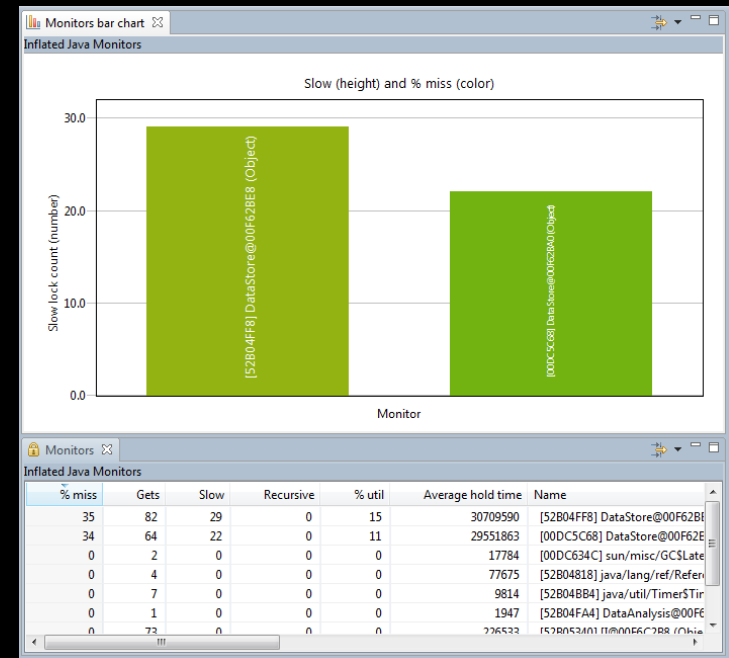


Method Profiling

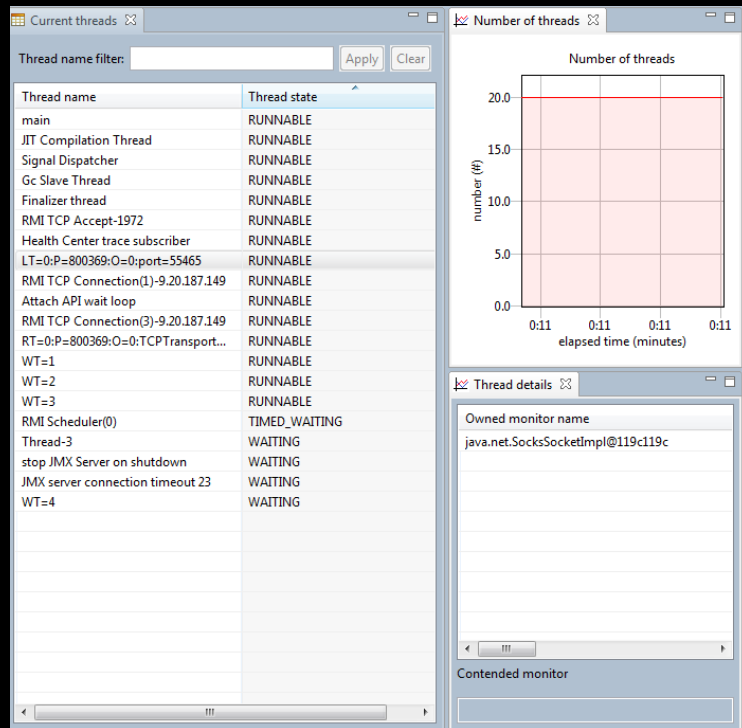
- Always-on profiling offers insight into application activity
- Identifies the hottest methods in an application
- Full call stacks to identify where methods are being called from and what methods they call
- No byte code instrumentation, no recompiling

Java Lock analysis

- Always-on lock monitoring
- Quickly allows the usage of all locks to be profiled
- Helps to identify points of contention in the application that are preventing scaling



Health Center overview cont...

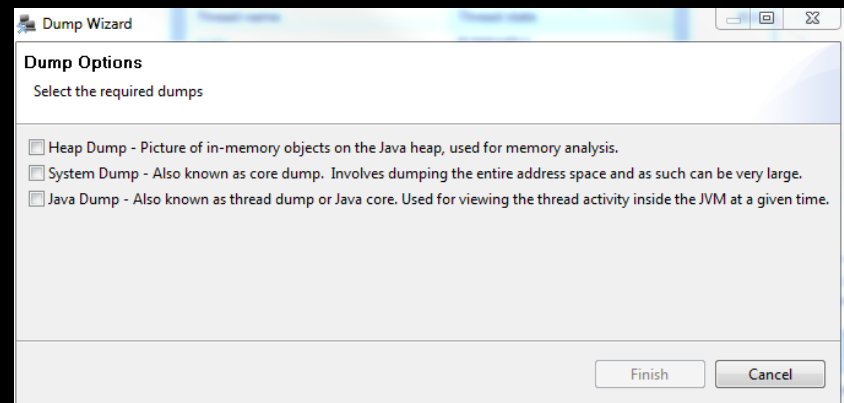


Threads view

- List of current threads and states
- Number of threads over time
- See contended monitors

Live control of application

- Trigger dumps
- Enable verbosegc collection



Health Center installation

- The tool is provided in two parts:
 - An agent that collects data from a running application.
 - An Eclipse-based client that connects to the agent.
- The Agent ship's with the following vm's:
 - Java 5sr9 and upwards
 - Java 6sr3 and upwards
- The latest version of the agent is always available from within the Health Center Client
 - Recommended to always update to the latest version of the agent
- Agent package unzips over the jre directory of the JVM you are using to run the application to monitor

How to enable an application for monitoring

- Full instructions are provided within the help shipped with the Health Center Client but in most cases as simple as :

For 5 SR9 and earlier, or Java 6 SR4 and earlier

```
java -agentlib:healthcenter -Xtrace:output=healthcenter.out HelloWorld
```

For Java 5 SR10 and later, or Java 6 SR5 and later

```
java -Xhealthcenter HelloWorld
```


Where to find more information

- IBM Monitoring and Diagnostic Tools for Java™ on developerWorks
<http://www.ibm.com/developerworks/java/jdk/tools/>
- IBM Support Assistant (ISA)
<http://www.ibm.com/software/support/isa>
- Email javatool@uk.ibm.com

Any Questions?