

Race Catcher™

By Thinking Software, Inc.



AT A GLANCE

Race Catcher™ from Thinking Software detects and diagnoses runtime errors experienced in code executed by the JVM. Each fault is dynamically analyzed at the byte-code level, and its location is mapped to the source code. This allows you to find and mitigate complex, insidious errors, boosting your application's reliability.

BENEFITS

- Automated location of multi-threading problems
- Perpetual increase in application reliability
- Substantial reduction of application failures
- Application reliability assurance
- 0% False Positive diagnoses
- Drastic reduction of debugging costs
- Runtime code analysis

CONCURRENCY BUGS – FACTS AND EXAMPLES

- “Any sufficiently complex multi-threading application is riddled with race conditions.”
- “Over 70% of concurrency bugs take days-months to diagnose.” –MSFT Research
- Facebook's IPO flop occurred due to a race condition in Nasdaq software.
- The 2003 Northeast blackout was caused by a race condition and cost General Electric \$6B.
- Therac-25 fatally overdosed cancer patients with radiation due to a race condition.

What is Race Catcher?

Modern multi-threaded applications are subject to concurrency faults that cause software systems to fail and inflict downtime, financial losses, customer dissatisfaction, dirty data, and a myriad of other negative consequences. The root cause of such failures are race conditions and deadlocks.

Thinking Software's Race Catcher solution is powered by a dynamic code analyzer that analyzes dependencies within an application's code as it executes. Our algorithm detects and locates every concurrency fault experienced by the application as it runs, regardless of whether it's installed in development, test or production.

With Race Catcher, you may be assured that any race condition or deadlock that occurs in your application is trapped, no matter how silent or obvious its symptoms are; its nature and location are instantly relayed to the engineering team for review and correction. Thus, the debugging process is redefined.

Of course, Race Catcher works seamlessly in your development and test environments. But its low overhead also means you can safely deploy your Race Catcher-enabled applications to production. Your users can become your testers! Any concurrency fault experienced by any application instance in your global installed base is trapped, mapped and analyzed in real time.