XREBEL CASE STUDY

ANTEA

ZEROTURNAROUND

COMPANY
TECH OVERVIEW

- **Size of development team:** 3
- **Technologies in use:** Jetty, Spring, Hibernate, Vaadin, Apache Derby, and other databases.
- **Types of apps being built:** Complex, multi-tier applications for optimizing and monitoring electrical systems in physical plants. The applications at the focus of the case study are the Palladio suite of applications, they are used for managing the electrical parts of oil plants and their instruments.

About Antea

Antea, established in 1989, is specialized in the development of highly flexible software solutions to supply integrated services which allow this company to be competitive in various industrial sectors such as Chemical, Petrochemical, Energy and Utility. Antea's software works with the most advanced technologies in product development and offers a complete range of services available to optimize monitoring maintenance and inspection operations, contributing to staff safety and environmental sustainability.

Antea's web applications in the Palladio suite focus on providing software for managing electrical parts of oil plants and their instrumentation. They are working on an extension that manages gas distribution networks.

since 1989

Why XRebel was evaluated

Antea regularly looks to optimize and update their development tooling to provide greater benefit to their customers. They chose XRebel to learn more about their applications and frameworks, as well as to profile their full Java web stack.

XRebel was designed to help developers fix issues like:

- **Session Issues:** bloat and leaks
- **Database:** Rogue SQL, track offending methods, inefficient queries, naive ORM configurations
- **Hidden exceptions**

Driving towards better software with tooling

Federico Russo, a development manager and Java developer in Antea's Development Group, is heavily involved and invested in finding new tools for his group. The Palladio suite, one of his team's many production applications, is used by factories and power plants to optimize and monitor their electrical and computer components. Right now, they are working on an extension to the suite that manages gas distribution networks. The Palladio suite uses Spring, Hibernate, and Vaadin. For the database component, they often are required to run and support whatever the customer uses, usually Oracle Database.

With XRebel's insight

Federico and his team have discovered and learned many things about their code, frameworks, and infrastructure since they started using XRebel. One of the first things that Federico realized was how slow Apache Derby can be, even when run in-memory. XRebel's SQL analytics were used to prove that Derby was taking much longer to run their queries than acceptable or expected. The team is actively looking to move to HSQLDB for their development needs with this new information. XRebel's SQL view was also very useful in learning more about the complex queries being run and the data returned by them.

The Development Group next leveraged XRebel to analyze the sessions of their application. With XRebel's Session view, the team found that some of their sessions were growing to an unreasonable 30 MB. This was due to a very common and costly injection mistake. When injecting Spring beans into their Vaadin 6 web layer, there were way too many references to the beans in the session which severely limited the concurrent number of users and increased the memory usage of their application to unreasonable levels.

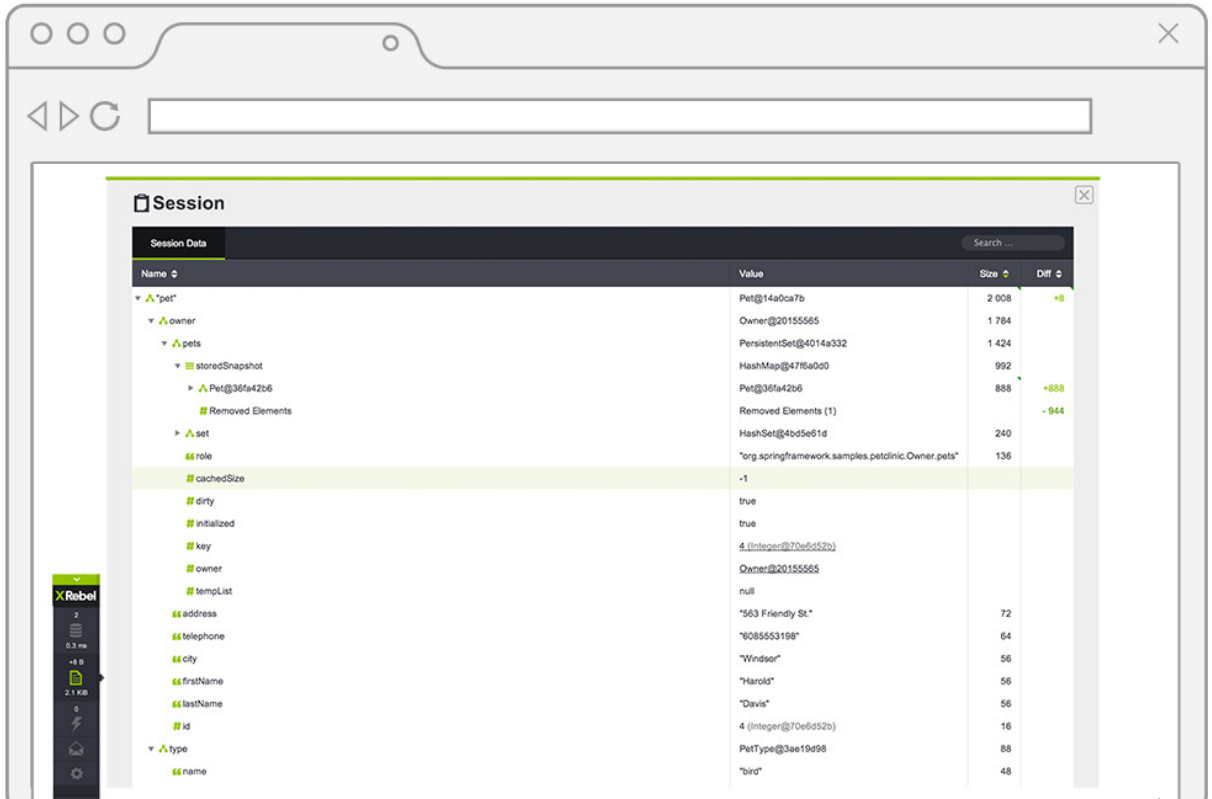
Better than a traditional profiler...

Federico and his team looked at VisualVM and read their their Hibernate logs, but found XRebel to be so much faster because the UI is right on the web page and available at all times. Regarding the functionality of XRebel, Federico stated, "XRebel doesn't do anything new, but it gives us a great view into our system right as it happens, saving us a lot of time" with respect to traditional profilers.

> We bought licenses for folks who work full time on this project. I turn it on and leave it on always. The others are doing the same.
>
> – FEDERICO RUSSO,
> *Java Development Manager, Antea*

“Even sales representatives noticed and commented”

Federico is especially pleased with the increases in productivity associated with using XRebel to profile his applications while developing them. Historically, performance problems are opened as bugs in their bug tracking software and they hoped to solve them. With XRebel, they have been able to increase their application’s performance to the point that even one of their sales representatives noticed and commented on it. They have less performance issues, they are able to address them faster, and have less customer complaints about slow pages.



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