

ORACLE SOLARIS DTRACE

INCREASED PERFORMANCE THROUGH COMPLETE SOFTWARE OBSERVABILITY

KEY FEATURES

- Designed for use on production systems to find performance bottlenecks
- Provides a single view of the software stack—from kernel to application—leading to rapid identification of performance bottlenecks
- Dynamically instruments the kernel and instructions in any application with a near-infinite number of probe points, improving ability to service software
- Enables maximum resource utilization and application performance, as well as precise quantification of resource requirements
- Fast and easy to use, even on complex systems with multiple layers of software

Oracle Solaris DTrace is a dynamic tracing framework for troubleshooting systemic problems in real time on production systems. DTrace is designed to quickly identify the root cause of system performance problems. DTrace safely and dynamically instruments the running operating system (OS) kernel and running applications without rebooting the kernel and recompiling—or even restarting—applications. Furthermore, when not explicitly enabled, DTrace has zero effect on the system. DTrace is available on all supported Oracle Solaris platforms.

Designed for Use on Production Systems

DTrace is absolutely safe for use on production systems. It has little impact when running, and no impact on the system when not in use. Unlike other tools, it can be initiated dynamically without rebooting the system, using special modes, restarting applications, or making any other changes to the kernel or applications.

DTrace provides accurate and concise information in real time. Questions are answered immediately, eliminating the need to collect large amounts of data for later analysis. DTrace can also highlight patterns and trends. This makes it easier and faster to identify bottlenecks, a task that can be difficult and time consuming with many other tools. By employing speculative tracing, DTrace can record and report (or discard) trace data based on nonsimultaneous events, enabling quick identification of transient problems and reducing the need for postprocessing. In addition, DTrace can be used across Oracle Solaris Containers to quickly correlate events and find bottlenecks on distributed applications such as Web applications. All of this leads to increased performance and service availability, while system downtime is reduced.

Provides a Single View of the Software Stack

With DTrace, system administrators, integrators, and developers can really see what the system is doing, as well as how the kernel and applications interact with each other. It enables users to formulate arbitrary questions and get concise answers, allowing them to find performance bottlenecks on development, pilot, and production systems. More generally, DTrace can be used to troubleshoot virtually any systemic problem—often finding problems that have been plaguing a system for years.

Many customers use DTrace to find previously undiagnosable system performance problems. Instead of spending long periods of time analyzing data or creating custom code for instrumentation, administrators can now spend time developing hypotheses to explain unusual system behavior.

Dynamically Instruments Any Application

DTrace can instrument any application without modifying or restarting. It runs only the traces that are requested; analyzes the data; and delivers fast, accurate answers. Designed for system administrators and application developers, DTrace is easy to learn and easy to use, providing a C-like scripting language to save, share, and rerun tracing routines.

Enables Maximum Resource Utilization and Application Performance

Now that users have the ability to understand performance problems on production systems, companies no longer need to spend time and money trying to replicate the problems on separate test systems. With DTrace, customers can tune their systems for better performance and utilization, achieving greater return on investment (ROI).

For example, in the case of an ultrathin client server underperforming, a team of experts looked into the problem for several weeks to no avail. After the system was upgraded to Oracle Solaris 10 with DTrace, it took just 20 minutes of analysis to find the rogue application at fault. The system now supports 30 percent more desktops.

Because DTrace often answers long-standing questions about application system demands, it allows companies to more accurately plan for future capacity. By using DTrace, many customers can now support more transactions on their existing systems.

Fast, Accurate, and Easy to Use

For the user, DTrace not only means higher utilization of assets; it also means empowerment when dealing with technology vendors. No longer do users need to take a vendor's word for the causes of systemic problems. By using DTrace, they can discover for themselves the nature of problems, gathering data that can end the finger pointing among vendors that often accompanies high-priority problems. The upshot for the user is higher-quality applications and better system performance. And the upshot for vendors is less time spent resolving problems. With DTrace, everyone wins.

Conclusion

DTrace provides every developer and customer running Oracle Solaris 10 with an extremely powerful tool to analyze performance. It empowers them with advanced observability into the systems they own to see how they work. With DTrace, the bottom line is developing higher-quality applications, lowering costs, reducing downtime, and providing greater utilization of existing resources to improve ROI.

Contact Us

For more information about Oracle Solaris DTrace, visit oracle.com/solaris or call +1.800.ORACLE1 to speak to an Oracle representative.



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