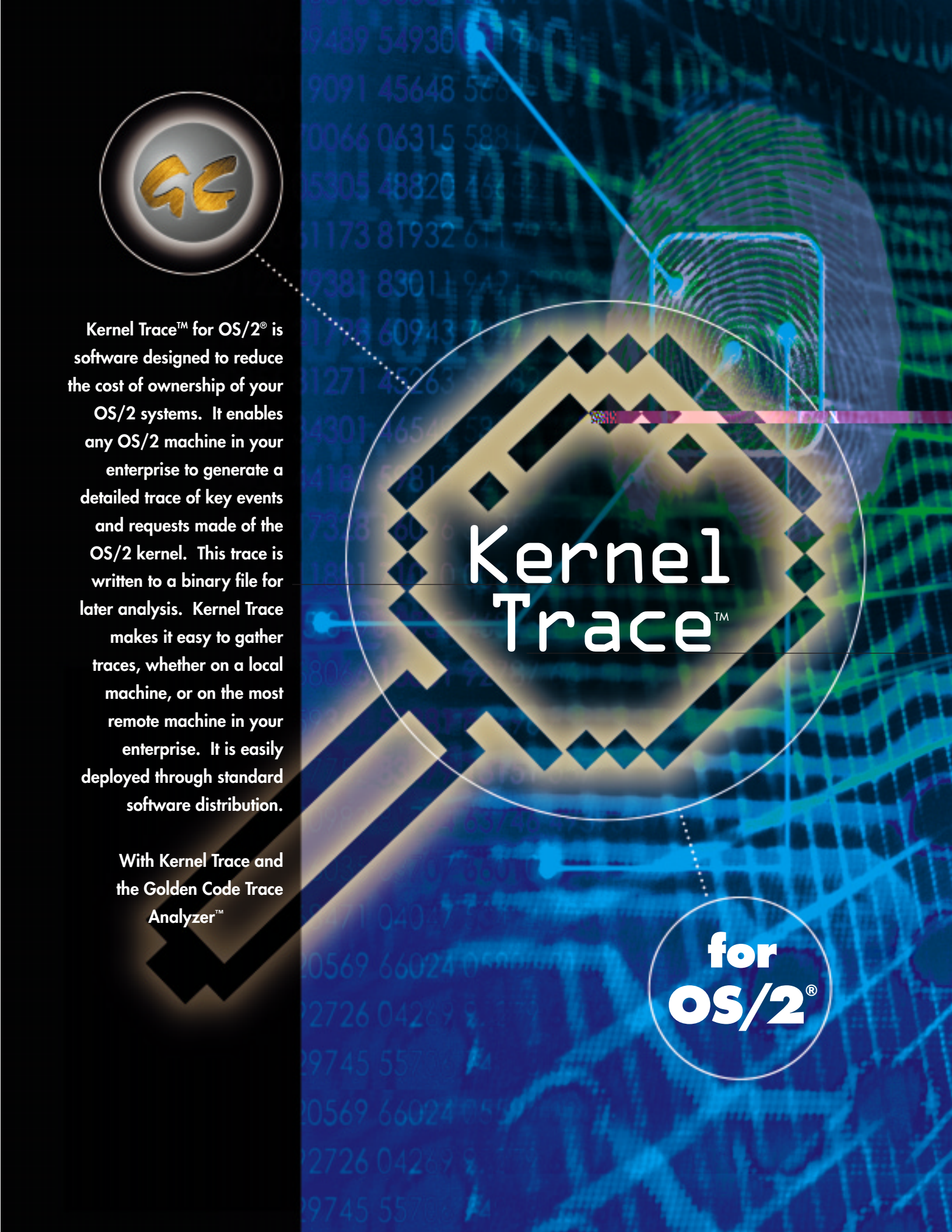


Kernel Trace™ for OS/2® is software designed to reduce the cost of ownership of your OS/2 systems. It enables any OS/2 machine in your enterprise to generate a detailed trace of key events and requests made of the OS/2 kernel. This trace is written to a binary file for later analysis. Kernel Trace makes it easy to gather traces, whether on a local machine, or on the most remote machine in your enterprise. It is easily deployed through standard software distribution.

With Kernel Trace and the Golden Code Trace Analyzer™

Powerful insight into key activity within the OS/2 kernel.

Trace at any OS/2 machine in the enterprise.

Software-only implementation requires no cables or hardware keys.

Kernel Trace for OS/2®

is a powerful tracing tool for the OS/2 platform. The most comprehensive, commercially available software of its kind, Kernel Trace provides a unique view of activity deep within the operating system. Highlights include:

Trace Kernel Events and Requests. Kernel Trace provides visibility into key activity occurring inside of the OS/2 kernel itself. By leveraging OS/2's Security Enabling Services™ (SES) subsystem, Kernel Trace has the ability to trace some of the most interesting and information-rich calls into the OS/2 kernel. Detailed data is provided with each traced call, including function arguments and return codes, where applicable. The following system tracepoints can be monitored:

- **File Access** – open, close, read, write, change pointer.
- **File Manipulation** – delete and move.
- **File Information/Attributes** – query and set file information, set file size, set file mode, set path information.
- **File Search** – find first, find next, find close.
- **Directory Manipulation** – make, change, remove directories.
- **Program Execution** – execute program, loader open, get module, create Virtual DOS Machine.
- **Set Date/Time**
- **Device Driver Access** – open, close, read, write, I/O control for logical and physical disks.

Power. Its design as a software-only implementation allows deployment throughout the enterprise. In this environment, any remote OS/2 machine can produce traces, when accessed from a central location using existing remote management technologies, such as telnet or Netfinity® Manager.

Simplicity. In order to support the widest range of customer environments, Kernel Trace has a command line interface. This simplifies remote use and enables automation via REXX. All tracepoints from all processes can be monitored, or the list of tracepoints or processes can be reduced to simplify analysis, using filters. The trace files generated are easily analyzed with the Golden Code Trace Analyzer™.

Low Overhead. Kernel Trace has minimal impact on system resources when it is dormant – negligible CPU utilization and less than 470KB RAM utilization.

Convenience. Implemented 100% in software, Kernel Trace does not require any specialized hardware. Since all trace data is written directly to a file, there is no need for a secondary machine connected via a null modem cable. Kernel Trace does not interfere with the normal activity of the installed machine, even while tracing.

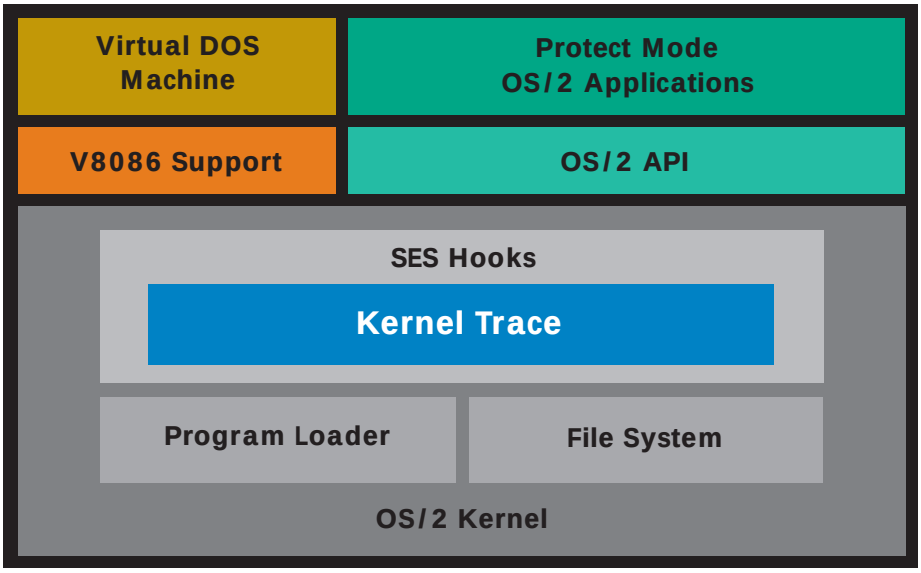
Uses

Problem Analysis. Kernel Trace improves problem determination by enabling a new level of inspection of OS/2 systems. Information relating to the internal operation of applications and subsystems can now be captured and analyzed as easily as looking at a log file! Kernel Trace provides a simple and cost effective way to take a trace, locally or remotely, from any OS/2 machine in the network. Traces simultaneously generated from multiple locations can be analyzed and compared to help isolate and diagnose problems.

Application Development. Kernel Trace provides a cost effective mechanism to reduce application development time. Kernel activity can be traced to provide insight into the operation of a system. While a developer can often track down problems with the addition of debugging or logging code, Kernel Trace provides a tool that allows inspection of highly useful information that can't always be captured within the application itself. It provides this capability without requiring any additional "debugging" code to be written.

Performance Tuning. Traces can be taken to create a baseline for the performance of a system. Additional traces can be taken at any time for comparison with the baseline. Analysis of these traces may be used to determine whether an application performance problem is a system problem or isolated to the behavior of a specific application. Kernel Trace allows performance issues to be addressed proactively, before problems become overwhelming.

Profiling. Kernel Trace can be used to profile applications or subsystems. Operations of a system can be recorded during active use and then the resulting data can be analyzed to understand system internals.



Support and Service

www.goldencode.com

E-mail support for Kernel Trace is provided for one year from the date of purchase at no additional charge. Targeted response time is within one business day. The Golden Code website provides the latest product tips, updates, fixes, and documentation.

Phone support contracts are available for an additional fee.

On-site consulting services are available at an additional charge to assist with planning, installation, deployment, problem determination, and skills transfer.

Benefits

Kernel Trace is designed to reduce the TCO of OS/2 and WorkSpace On-Demand environments.

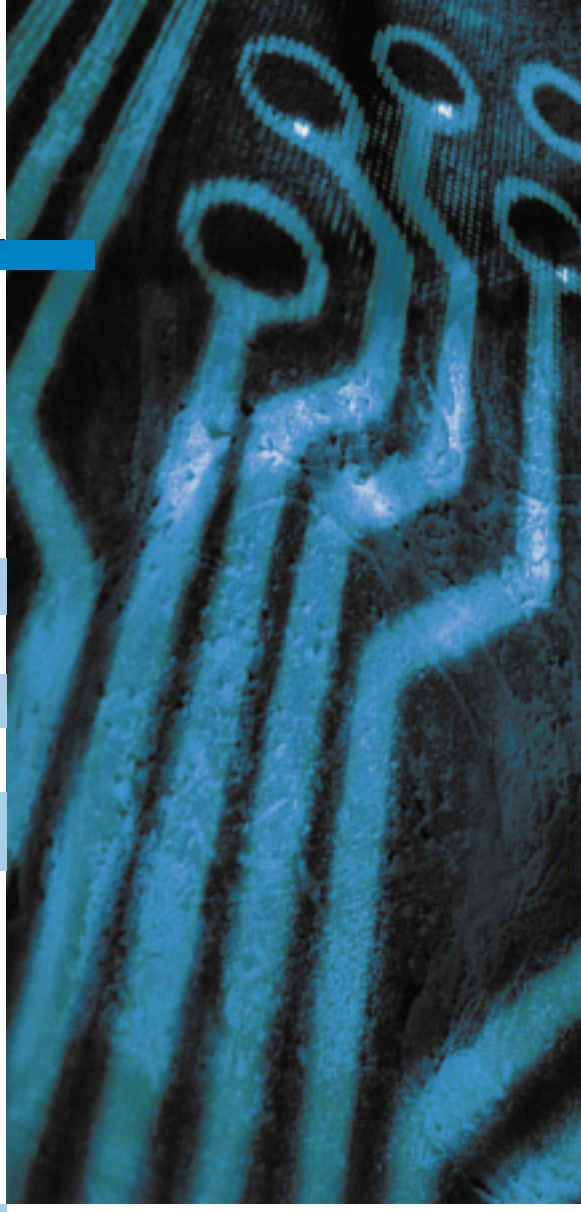
By minimizing the time required to gather critical data when a problem occurs, the time to identify and solve the problem is reduced. The capability to gather trace data remotely eliminates the wasted time, effort, and travel expense associated with sending engineers on site to gather traces. A problem's impact, such as downtime, is reduced by days or even weeks.

Technical staff are more productive and effective. System specialists can now remain in a central location and focus on trace analysis rather than trace gathering, permitting a small team to manage a greater number of systems.

With kernel tracing capability available at every OS/2 machine on the network, higher levels of service are possible. Tasks previously considered impractical – performance benchmarking, profiling – are now within reach.

Kernel Trace is architected to minimize its own deployment and ownership costs. It requires no specialized hardware, eliminating the cost of purchasing, deploying, and managing such systems over time. Instead, it piggybacks on the management infrastructure already in place and is installed through traditional change control processes.

Technical Specifications



Operating Systems Support

Kernel Trace for OS/2 is supported on versions of the OS/2 operating system currently supported by IBM®. Although this product may function properly on older versions of OS/2, support for these versions will be provided on a best efforts basis only. Fixpak updates for OS/2 may be required.

TESTED OS/2 VERSION	FIXPAK LEVEL
OS/2 v3.0[1]	XR0W038
OS/2 v4.0	XR0M012, XR0M013
WorkSpace On-Demand™ Client	XR0M009
Warp Server v4.0[1]	XR0W038
Warp Server v4.0[1] with WorkSpace On-Demand Manager	XR0W038
Warp Server for e-business™	XR04500

Hardware Requirements

While there are no specific, minimum, hardware requirements beyond what is normally required to run OS/2 adequately, Golden Code Development recommends the following hardware resource levels:

HARDWARE RESOURCE RECOMMENDATIONS	
CPU:	200 MHz Pentium®
RAM:	64MB
Disk Space:	Depends upon the amount of data gathered

1 *Warp v3.0 (and products based on this including Warp Server v4.0) MUST be at least fixpack 16 (XR_W016). This was the fixpak in which IBM introduced the SES callouts. Kernel Trace will not run on prior fixpak levels.*

Statement of Year 2000 Compliance

When properly used in accordance with its associated documentation, Kernel Trace for OS/2 will correctly store, display, process, provide and/or receive date data from, into and between 1999 and 2000 and the twentieth and twenty-first centuries, including leap year calculations, provided that all other technology used in combination with Kernel Trace for OS/2 properly exchange accurate date data with it.

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