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Internet Archive
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AFFIDAVIT OF CHRISTOPHER BUTLER

1. I am the Office Manager at the Internet Archive, located in San Francisco, California. I make this declaration of my own personal knowledge.

2. The Internet Archive is a website that provides access to a digital library of Internet sites and other cultural artifacts in digital form. Like a paper library, we provide free access to researchers, historians, scholars, and the general public. The Internet Archive has partnered with and receives support from various institutions, including the Library of Congress.

3. The Internet Archive has created a service known as the Wayback Machine. The Wayback Machine makes it possible to surf more than 400 billion pages stored in the Internet Archive's web archive. Visitors to the Wayback Machine can search archives by URL (i.e., a website address). If archived records for a URL are available, the visitor will be presented with a list of available dates. The visitor may select one of those dates, and then begin surfing on an archived version of the Web. The links on the archived files, when served by the Wayback Machine, point to other archived files (whether HTML pages or images). If a visitor clicks on a link on an archived page, the Wayback Machine will serve the archived file with the closest available date to the page upon which the link appeared and was clicked.

4. The archived data made viewable and browseable by the Wayback Machine is compiled using software programs known as crawlers, which surf the Web and automatically store copies of web files, preserving these files as they exist at the point of time of capture.

5. The Internet Archive assigns a URL on its site to the archived files in the format http://web.archive.org/web/[Year in yyyy][Month in mm][Day in dd][Time code in hh:mm:ss]/[Archived URL]. Thus, the Internet Archive URL http://web.archive.org/web/19970126045828/http://www.archive.org/ would be the URL for the record of the Internet Archive home page HTML file (http://www.archive.org/) archived on January 26, 1997 at 4:58 a.m. and 28 seconds (1997/01/26 at 04:58:28). A web browser may be set such that a printout from it will display the URL of a web page in the printout's footer. The date assigned by the Internet Archive applies to the HTML file but not to image files linked therein. Thus images that appear on a page may not have been archived on the same date as the HTML file. Likewise, if a website is designed with "frames," the date assigned by the Internet Archive applies to the frameset as a whole, and not the individual pages within each frame.

6. Attached hereto as Exhibit A are true and accurate copies of printouts of the Internet Archive's records of the HTML files for the URLs and the dates specified in the footer of the printout.

7. Exhibit A includes the Internet Archive's earliest dated records for the URLs specified in the footer of each printout. The fact that a URL from an earlier date is not accessible via the Wayback Machine only means that the page is not archived in
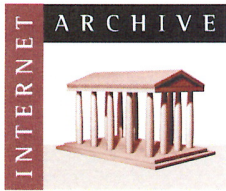
8. the Wayback Machine. It does not mean that the page did or did not exist on an earlier date. The Wayback Machine does not contain copies of every page that ever existed on the Internet.

9. I declare under penalty of perjury that the foregoing is true and correct.

DATE: 10/27/14

_____
Christopher Butler

CALIFORNIA JURAT
_____

See Attached Document.

State of California
County of San Francisco

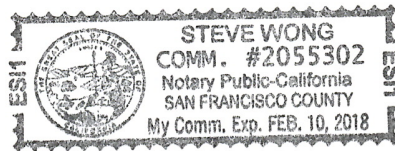   Subscribed and sworn to (or affirmed) before me on this

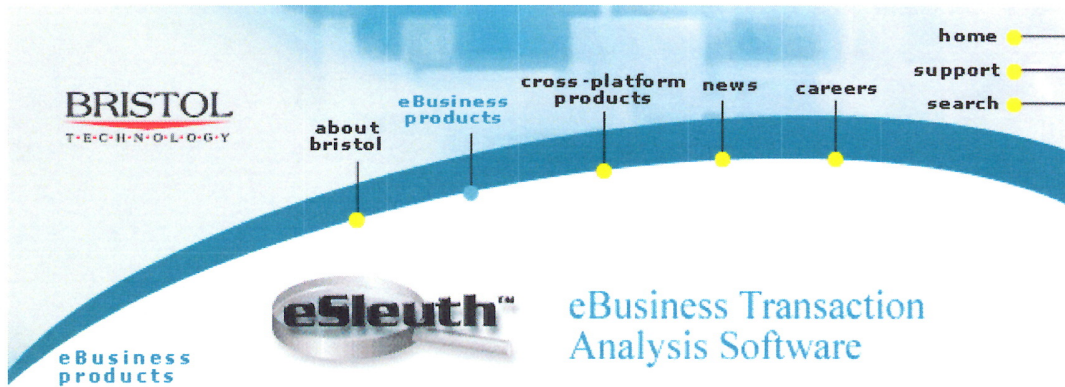   27 day of OCT , 2014 , by

                      Christopher Butler,

                      proved to me on the basis of satisfactory evidence to be the person who appeared before me.

                      Signature: _____

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eSleuth

eSleuth™   eBusiness Transaction Analysis Software

eSleuth ensures that your eBusiness information **gets to the right place, at the right time, with the right content**. It traces MQSeries API calls across eBusiness systems and graphically displays the flow of messages between applications and queues. eSleuth enables you to pinpoint information flow failures anywhere in your environment and drill down into the application-specific data you need to solve them.
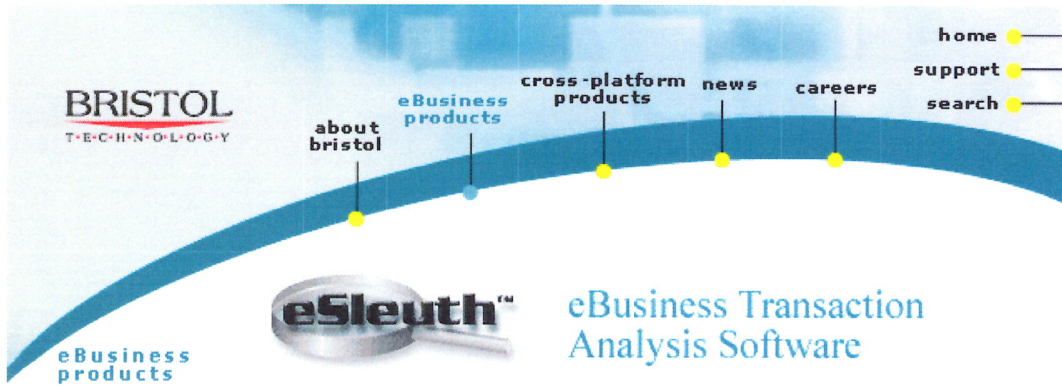
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eSleuth™ eBusiness Transaction Analysis Software

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Please take a moment to complete the following form before downloading the eSleuth multimedia quick tour or video guidedtour. If you would prefer to receive a CD-ROM containing the quick tour along with a video guided tour, the eSleuth white paper, and the "New Approach to Debugging MQSeries Applications" presentation, please complete the information request form instead.
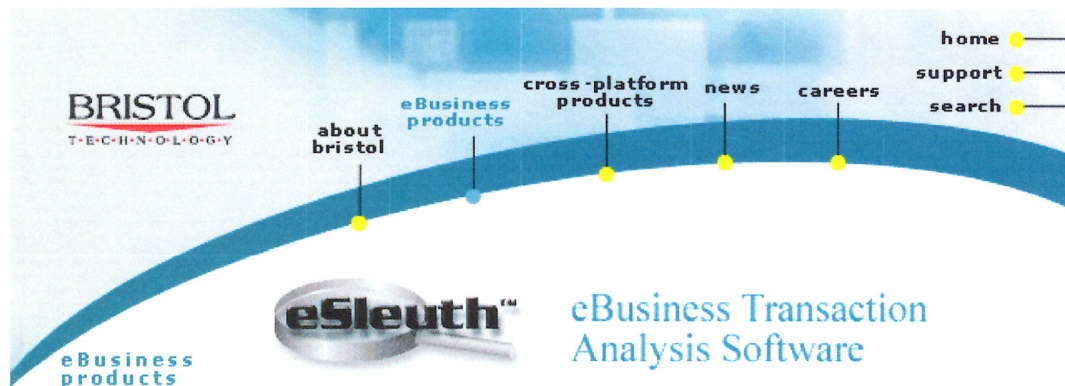
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eBusiness Transaction Analysis Software that
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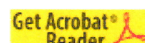
Build eBusiness Systems with Confidence

You've invested heavily in high-availability equipment and middleware
to provide reliable software communications. But one thing worse than
your eBusiness system going down is your eBusiness system staying
up and silently mishandling your business transactions.

eSleuth™ is transaction analysis software that ensures your eBusiness
information gets to the right place, at the right time, with the right
content. eSleuth detects and helps alleviate information flow failures in
MQSeries-based eBusiness systems running across UNIX, Windows NT,
Linux, and OS/390. Using eSleuth during eBusiness application
development shortens the time to deployment of new eBusiness
systems and improves their reliability, performance, and quality by
ensuring that eBusiness transactions are completed successfully and
efficiently.

eSleuth Maximizes the Return on Your Middleware Investment

With the phenomenal growth in eBusiness, middleware such as
MQSeries has become the linchpin of the corporate computing
environment. Yet, despite the pivotal role of middleware, solutions for
analyzing inter-component events for the purpose of identifying and
resolving logic flow problems and performance bottlenecks are sorely
lacking. eSleuth fills this void by graphically analyzing eBusiness
system transactions across system and application boundaries,
enabling you to visually pinpoint information flow failures and
performance bottlenecks. Only eSleuth lets you look inside your
application to identify the exact logical cause of information flow
failures.

The complexity of eBusiness systems makes it virtually impossible to
determine the cause of a failure. eSleuth provides a unified view of
your complete eBusiness system, created from information gathered
during application execution. This high-level view enables you to
clearly see the interaction between components throughout your entire
system, making it easy to see information flow failures and
performance bottlenecks.

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Figure 1: eSleuth offers a single point of problem isolation across eBusiness environments by analyzing and correlating transactions for visual presentation.

The initial version of eSleuth supports organizations using IBM MQSeries message-oriented middleware. Future versions will analyze additional technologies such as HTTP, CGI, CORBA, COM/DCOM, databases, TUXEDO, and Microsoft Message Queue (MSMQ).

More Than Monitoring: Complete Transaction Analysis

eSleuth enables you to identify problems during development and provides the information you need to resolve these problems-before your system goes into production. eSleuth traces MQSeries API (MQI) calls across programs and geographical locations and graphically displays the flow of messages between programs and queues. By analyzing the details of each API call, eSleuth enables you to drill down into application-specific data, down to data structure contents.

While middleware monitoring tools alert you to MQSeries communication failures, eSleuth has some key features that distinguish it from existing middleware management and monitoring tools:

- eSleuth provides logical diagnostic information to developers (such as API calls, call arguments, return values, etc.), while management and monitoring tools focus on system data such as queue status.
- eSleuth correlates API calls made from different components in the system to form a complete transaction view; including graphical depiction of the entire system.

eSleuth generates and stores information for each MQI call made by an eBusiness system. Even though MQI calls may occur asynchronously, on different hosts, and within different running programs, eSleuth correlates the calls that relate to the same business transaction in your application and graphically presents that information. For example, eSleuth connects the MQGET call that retrieves a message with the MQPUT call that sent it, enabling you to trace the logical flow within your application across program,

execution thread, queue manager, or host boundaries.

In addition, eSleuth translates MQI details into understandable values that you can interpret and act on immediately. It formats data structures (MQMD, MQPMO, etc.) and present the symbolic flag names (MQGMO_SYNCPOINT, MQOO_INPUT_SHARED, etc.) for MQI data values, even if your program is compiled with optimization. You can see the user data buffer within each message as well. Moreover, eSleuth allows you to control which MQI calls are reported to the eSleuth Analyzer by specifying filtering criteria. This filtering capability enables you to focus on problem areas.

While message monitoring tools focus on MQSeries infrastructure, eSleuth looks within your application. So while a monitoring tool can alert you to an MQSeries-related problem, eSleuth lets you see the MQI call that caused the problem. eSleuth's application focus also lets you see messages that only remain on the queue for a short time-or never arrive in the first place-that traditional monitoring tools might miss.

Only Analyze the Data You Need to Solve a Specific Problem

Through the use of eSleuth presentation filters, you can view the collected information in a variety of ways. From high-level views, you can drill down into more event details such as the MQ message descriptor and user data. Instead of simply seeing streams of numbers and return codes, eSleuth translates this information into understandable values. You can decide to view all the collected events as transactions. eSleuth automatically correlates the collected events into business transactions. In addition, you can view the events as they occurred sequentially from all the applications and hosts being monitored. You can narrow your search by time, MQI call, queue, queue manager, host, program, thread, and a number of other criteria. For more complex filtering requirements, you can even write your own custom filters using the VBScript interface built into eSleuth.

Solve the Challenges of eBusiness Transaction Analysis

The following table demonstrates how eSleuth addresses problems in testing and debugging an eBusiness transaction system.

The Problem	How eSleuth Addresses the Problem
Development and diagnostic skills are required on many platforms.	eSleuth provides a central transaction analyzer with a Microsoft Windows user interface. Working from a central console, you can view transactions being processed on local or remote heterogeneous computer systems.
Visualizing transaction flows through a complex eBusiness system is difficult.	eSleuth provides a component layout graphical view, providing a view of transactions occurring across different systems. eSleuth automatically determines the transaction flow by monitoring a running system; no developer interaction or code changes are required.
Tracing transactions into legacy or third party applications is impossible.	By providing views of the MQSeries API calls and transactions resulting from these calls, eSleuth provides a glimpse inside the black boxes and sees what MQSeries API calls are being made (including the ability to see the

API parameters). This is done without access or modification to the source code of these legacy applications and components.

Asynchronous systems process thousands of transactions per second	eSleuth's ability to filter the information gathered and presented from the remote systems allows you to isolate only the data needed to identify problems that are occurring within transactions.
Middleware technologies hide diagnostic information.	Presentation filters within eSleuth enable you to view all of the middleware-specific data fields in addition to other information that is normally transparent to the developer.
Middleware monitoring does not provide enough information.	eSleuth provides a view showing all the MQSeries API calls made in the eBusiness system, in addition to the correlation of these API calls into transactions.
The cause of performance bottlenecks is hard to pinpoint.	With eSleuth, transaction path tracing is done at the API level within software components of the system. Event sequences can be analyzed at the thread level within these components. eSleuth maintains timestamp information on all gathered events, including corrections for clock skew between the nodes.

How eSleuth Works

eSleuth consists of two major components:

- Platform- and technology-specific **eSensors**, which capture information about each MQI call
- An **Analyzer** console, which stores captured transaction data, analyzes transactions, configures filters, and presents the results graphically

Figure 2: eSensors relay transaction data to the Analyzer console for analysis, correlation, and visual

presentation.

eSensors

eSleuth sensors are light-weight, non-intrusive monitors that trace API usage across middleware technology such as MQSeries. Available for all major platforms, eSensors are installed on each host in the eBusiness application environment to capture transaction data for each MQI call executed on that host.

The type and amount of information captured by each eSensor is easily configured from the eSleuth Analyzer console. Data collection filters, configured through easy-to-use dialogs, control the data each eSensor collects. For example, you may only want the MQMD information on some hosts, MQMD information and user data on other hosts, or all details from all the hosts.

Unlike many other debugging or application troubleshooting methods, you do not need access to the original application source code to install and use eSensors. The eSensors monitor your system unobtrusively-you do not have to change any code or rebuild your application. Once installed on the host, eSensors are able to collect information on every MQI call that is made. Even if you do not have source code to certain applications or if applications are compiled in non-debug mode, eSensors can still trace all the API calls.

eSleuth Analyzer

The eSleuth analyzer console is the single point of interface for diagnosing problems in your MQSeries application. The analyzer console receives messages from the installed eSensors, processes them, and displays different views of this data to help you diagnose problems within your system. An embedded database is included with the console for easy setup and efficient, persistent storage of data received from eSensors.

The eSleuth Analyzer console provides four primary views: the Component Layout, Event Timeline, Event List, and Event Details.

Component Layout
eSleuth's unique Component Layout view (Figure 3) graphically displays the interaction between all components of your eBusiness system, including the message queues, hosts and programs. eSleuth builds this graph from data collected during program execution, so it an accurate and complete representation of how information actually flows throughout your eBusiness system. The thickness of the lines between components indicates performance characteristics of your system. Color coding makes error conditions easy to pinpoint at a glance. eSleuth's powerful user interface makes it easy to customize this view or print it as a map of your entire eBusiness system.

(Click for full size view)

Figure 3: The Component Layout view provides a

high-level picture interactions between all components in your entire eBusiness system.

Event Timeline

The Event Timeline view (Figure 4) correlates events across multiple hosts and operating systems into transactions. Color coding makes it easy to distinguish local or business transactions, and eSleuth's graphical interface makes it easy to navigate between the events that make up a single transaction. You can apply presentation filters to display only the events and transactions applicable to any particular transaction for rapid analysis of transaction problems. No user interaction is required to generate these transactions-eSleuth automatically links together the messages that make up the same business transaction and displays them graphically.

([Click for full size view](#))

Figure 4: The Event Timeline view correlates transactions across program and operating system boundaries.

Event Filtering and Drill Down Capabilities

You can view all the recorded or real-time events occurring within your system through eSleuth's Event List view (Figure 5). In this view, all the data stored in the events database can be displayed and filtered, allowing you to restrict the view to only data that is relevant to the analysis of the problem.

([Click for full size view](#))

Figure 5: The Event List view provides details about selected transaction events.

Easy-to-Read Event Details

With the Event Details view (Figure 6), you can select an event and view more specific information on that event than in the Event List or Event Timeline views. The Event Details view interprets and displays all of the information in the MQMD header information, the dead letter queue header, and also user data in the message. No longer will you have to work your way through MQSeries header files to establish exactly what a return code value means - eSleuth understands the middleware technologies being monitored so it automatically describes the return code. So instead of seeing a reason code 2024, you will see MQRC_SYNCPOINT_LIMIT_REACHED. By expanding the nodes in the data structure entries you can view additional details of structures that exist plus you can view the user data of the message and examine the

contents in both hexadecimal and ASCII/EBCDIC format. Multiple event detail windows enable you to easily compare the fields of two or more messages.

(Click for full size view)

Figure 6: The Event Details view shows comprehensive information about transaction events in an easy-to-understand format.

Look at Your eBusiness Applications a New Way

From a big-picture view of your entire system to individual data structure contents, eSleuth lets you see exactly the information you need to improve reliability, performance, and quality for your eBusiness applications. To find out more about eSleuth and how it can help ensure that your eBusiness information gets to the right place, at the right time, with the right content, call the nearest Bristol office or visit us on the web at http://www.bristol.com.

Availability

eSleuth is currently available for Windows NT 4.0 or later, Sun Solaris 2.5.1 or later, HP-UX 10.20 or later, IBM AIX 4.2.1 or later, and IBM OS/390 V2 R5 or later. Support is provided for MQSeries 5.0 or later (2.1 or later on OS/390) with CICS TSV 1.2 or later as a requirement on OS/390. Please visit http://www.bristol.com/esleuth for an updated list of supported platforms.

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