



The Trouble with Tagging

It's not surprising that your current web analysis vendor won't tell you that web analytics that rely on page tagging have serious limitations in collecting critical site and visitor data on complex e-commerce sites. Read this White Paper to learn how an innovative, single technology platform can collect complete and accurate information on every aspect of your demanding e-commerce site. You can accelerate your e-business success when you monitor, measure and optimize all aspects of your site faster and at a lower total cost.

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Executive summary

Successful e-commerce demands precision in every area simultaneously. Site performance has to be fast and error free. Understanding visitor traffic, increasing conversions and quickly fixing performance problems means you must continually analyze, test and update your site. Today, your web team uses a variety of tools, services and processes to monitor and optimize your site – and to collect information about visitors that can be used to drive more revenue.

Most high performance sites today rely on “page tags” or embedded scripts to collect data for web analytics. Customizing the implementation to provide data specific to your e-business can take months of effort and hundreds of thousands of dollars—and you still won’t know that a customer abandoned his shopping cart because he got a server error from your site. In fact, if your customer uses a mobile device, you probably won’t even know he was there. Without an accurate picture of your site traffic you can’t optimize the your site to drive revenue, increase customer loyalty, fix problems, detect fraud and increase your profitability.

Complex sites need better info than tagging provides because of problems like:

- **Implementation** – tagging requires changing every page of your site and continual IT involvement. It is expensive and time-consuming to code, test, deploy and maintain tag scripts every time there’s a change to your site or your data requirements. Your ability to experiment is severely limited.
- **Data access, management and integration** – outsourcing web data management to a vendor limits your ability to access the data in real time, join it with your corporate databases or even access the raw data files.
- **Performance** – tagging adds a significant performance burden to your pages so visitors experience slower page availability.
- **Security** – tag scripts open doors for hackers into your corporate computing systems while 3rd party storage increases your risk of disclosing customer data.
- **Missing data** – tag scripts only work if you correctly alter every page on your site. They miss many crucial events like server errors, visitors using mobile devices and any visitor actions before the script has loaded and executed.

Now, Metronome Labs delivers a single platform for understanding and optimizing your online presence. Metronome uses innovative, non-invasive data capture technology to collect, aggregate and summarize information about all aspects of your site without any changes to your site or systems. You get better results from your e-business with better information faster and at lower total cost. You can drop in Metronome’s Capture appliance in less than a day and immediately begin reporting complete and accurate data about both your site and its visitors using its passive packet-sniffing technology. You eliminate all the work of developing, testing and maintaining tag scripts while gaining the ability to change your data requirements anytime, send real-time alerts and integrate your web data with your corporate databases. And, you’ll troubleshoot problems faster, identify visitors more accurately and improve your content personalization.

Accelerate your e-business with better site information and at lower total cost with Metronome Labs. You’ll begin immediately increasing your website’s productivity by optimizing content and eliminating performance problems faster. And, Metronome’s solution will take you into the future, no matter how fast your questions change or how fast your e-business grows.

Successful e-commerce demands precision

Managing high performance e-commerce websites means keeping a lot of balls in the air. Site performance has to be fast and error free. Understanding visitor traffic, increasing conversions and quickly fixing performance problems means that you must continually analyze, test and update your site. Today, your web team uses a variety of tools, services and processes to monitor and optimize your site – and to collect information about site visitors that can be used to drive additional revenue. The more often your site changes and the more complex it is, the more complex – and costly – it has been to optimize your site for better results.

Initially web analytics gave you traffic measurements like counts of visitors, page views and sessions. As e-commerce has matured, sites have become more complex, handling millions of page views per day using multiple servers, dynamically-built pages and personalization. Over time, web analytics tools have evolved from server log file analysis to proxy servers to page tagging services in an effort to provide actionable insights into site performance and visitor behavior. You've moved through several different web analytics products, tapping out their capabilities long before you've answered all your questions. Currently a web analytics service to collect data on your complex site's traffic can take months of effort and hundreds of thousands of dollars to implement—and it still won't be able to tell you that a visitor abandoned his shopping cart because he got a server error from your site. You need to find and fix the problems that frustrate customers before they abandon you and you need to understand your opportunities to drive revenue growth.

Page tagging is widely used today

The most widely accepted approach to web site analysis today relies on “page tags” to create data. Web analytics services that utilize page tagging give you a more visitor-oriented look at site performance than web logs because they use program scripts or “tags” that report back from the visitor's browser about which pages were viewed and what action the visitor took.

Page tagging implementation works as follows:

- Add JavaScript page tags to every page
- Test to make sure your web pages still work
- Replace your production site with the tagged pages
- Collect the data reported back from the tags
- Review the reports provided at the 3rd party site

The initial standard implementation can be completed fairly quickly. You do not need any new hardware and it does not matter where your site is hosted. The vendor supplies you with a standard script that can be automatically added to each page on your site. Most vendors offer a hosted service, collecting and reporting the data for you. The data itself is automatically organized into visitor sessions, known as “sessionizing,” for ease of analysis. Caching or proxy servers do not affect the data. Page tagging is a widely accepted approach to web site data analysis because many e-commerce organizations have gained insights into their web site and its visitors quickly and easily—especially in the initial implementation. The difficulty comes when you need to move beyond the simple standard implementation to collect data specific to your e-business or to accommodate the site technologies you have adopted.

Complex sites need better info than tagging provides

But what e-commerce organizations are quickly learning is that the simple initial installation of page tags does not deliver the information that they really want. A complex site—and specific data requirements—requires custom tag script development and extensive testing.

Web analytics tools have evolved as a result of changing web technologies. From log file analysis, site owners moved to page tag scripts to capture data about their sites and visitors. The limitations of page tag scripts have become too serious for today's e-businesses with their complex, mission-critical sites.

Web Analytics market evolution		
1 st generation Web logs Late 1990s-early 2000s	2 nd generation Page tags Early-mid 2000s	3 rd generation Clickstream Data Collection
File of basic information that must be moved to a database for analysis	A code script placed on each page to send data back to a warehouse	Captures complete visitor and server info by "listening" to clicks
Perpetual license	Hosted service	Appliance
Performance-oriented Huge files created Lots of garbage data Poor visitor info Hard to track sessions across servers Can't see client-side errors	Visitor-oriented Potentially rich data rarely realized due to high maintenance costs Silo-ed by vendor Privacy risks Serious limitations for audio, video, mobile	Clean, complete visitor and performance data Real-time grouping, data feeds and alerts High performance Secure Fast deployment Low TCO

When you want to know specifically what was displayed on the page and what actions were taken by the visitor, such as whether a PDF was available for download and whether the PDF was actually downloaded, the tagging implementation gets exponentially harder very fast and still does not deliver complete and accurate data about the site and its visitors.

Implementation is risky and time-consuming

Implementing page tags requires changing every page of your operational site. Any mistake in the tag script can disrupt the site itself by causing the pages to fail. Because of the risk to your site, adding and changing tag scripts requires extensive testing and quality assurance. The added risk means implementation must proceed slowly and carefully to avoid bringing down your mission-critical e-commerce site. Typically, you would use a parallel test site for the changes but you still have the risk of failure at the "nail-biting moment" when you switch them into production on your live site. Not testing on production data is always a risk. Adding services that do synthetic testing on your site adds cost and effort and still cannot come close to the value of understanding the actual traffic on your live site.

The standard scripts provided by page-tagging vendors do not give you much more data than log files did. To capture data specific to your e-business, you must develop your own custom scripts. Any custom tagging increases the implementation effort exponentially because of the additional development and testing required. These tag scripts create a maintenance problem because they must be changed and retested every time your site or your data needs change. The tags must be pre-configured to correlate with the reports they are feeding so a change in reporting requirements will also require another round of script

changes, testing and tracking. Adding and managing page tag scripts is real work that costs money, takes time, carries risk and requires continual IT involvement.

Data access, management and integration is limited

Using a hosted web analytics service lets you completely outsource your web data management. Outsourcing may relieve your team of storage and processing but limits your ability to use the data effectively. If the web data is stored off-site, you are unable to join it safely and easily with your corporate systems such as CRM for an integrated view of customers or ERP for integrated inventory and fulfillment. Joining the data across the Internet is technically difficult and less secure. You cannot use the data in real-time applications such as alerts or operational systems updates. Many vendors are resistant to giving you back your raw data files to feed other analytical or operational systems or for data mining.

Site performance can easily deteriorate for your visitors

Downloading and executing large JavaScript files creates performance issues for your site. The standard tag script from a basic web analytics service like Google Analytics is about 30K of data—10-12 pages of text—added to each page on your site. A complex, custom-coded tag script can be much longer. Your visitor's browser has to execute the tag script for each page. Since the tag script scans through the page to look for certain elements and attach methods to the page elements, it can delay your visitor from interacting with the page. The page tag script has to be executed for every page viewed, delaying the page load completion and degrading your visitor's experience.

Security of your computing systems can be compromised

The page tagging architecture and implementation creates security concerns for many organizations. The JavaScript tag files are freely accessible to anyone who requests a page from your site. In the tag script file, you provide hackers with insight into your corporate computing systems and give them code which they can alter maliciously to attack your systems. Many web analytics vendors only offer hosted services so data your visitors have entrusted to you is collected and stored outside of your direct control. This approach is unacceptable for many e-commerce organizations, particularly financial and healthcare organizations with strict privacy requirements. Most government entities and agencies do not allow page tags on their sites for this reason.

Missing important data can jeopardize your business success

In many situations, tag scripts completely miss important information about visitors interacting with your site. First, you must make sure that every page on your site is tagged correctly or it cannot be tracked at all. In practice, it is easy to miss a page and difficult to keep pages and tag scripts in synch with frequent site changes. To track specific objects on a page like ads served, products displayed or PDFs available for download or to track visitor actions like click-throughs or downloads, you need complicated custom tag scripts. Complex scripts are more susceptible to errors or faulty logic resulting in incomplete or inaccurate data.

Server errors cannot be seen or reported by tag scripts at all so if the server returns an error or failed transaction, that valuable information is not recorded. If a visitor cancels a page or moves to a new page before the tag script is fully loaded and executed, then no data is recorded. For example, if the script causes the page to load slowly, the visitor may see the top level navigation bar before the rest of the

page is available. If the visitor clicks on the navigation bar and moves to another page before the script has finished loading and running, the script misses the visitor's click action. No data is sent to record the visitor's page view or click action. More and more, people are interacting with web sites via mobile devices like phones and PDAs. Most of these devices do not run JavaScript so no information on these visitor sessions is available unless you go back to the server web logs. Tagging has difficulty and gets very complicated with new technologies like AJAX and new business requirements like tracking click-throughs on ad links with embedded video content.

Superior new technology delivers better info faster

Now, Metronome Labs delivers a single platform for understanding and optimizing your online presence. Metronome uses innovative, non-invasive data capture technology to collect, aggregate and summarize data about all aspects of your site without any changes to your site or systems. You get better results from your e-business with better information about your site and your visitors available faster and at lower total cost. Leading e-commerce companies are already improving their productivity with proven Metronome solutions.

Metronome Labs solves tagging troubles today

You can drop in Metronome's passive clickstream data capture appliance in less than a day with no intrusive changes, no risk to your site or systems and no possibility of degrading the performance of your servers or your visitors' browsers. You immediately begin collecting complete and accurate data about both your site and its visitors with precise timing. You eliminate all the work involved in creating, testing and maintaining tag scripts every time anything on your site changes, while gaining the ability to change your data requirements on the fly anytime without any impact on the site so you can experiment more easily. In the event of an error, your only risk is the possibility of losing some analytics data—your site, your corporate systems and your operational data are never at risk of failure, malicious intrusion or unintended disclosure due to your analytics solution.

Metronome's solution tracks both server and visitor sides of every transaction so you will always know exactly what happened even when the visitor is using a mobile device. You can even review individual visitor sessions to see their experience including page load and dwell times, failed transactions, visitor cancelled pages, downloads and more so that you can quickly troubleshoot your site to eliminate the errors that frustrate visitors and even cause them to abandon your site. You can integrate your web data with your corporate data, send alerts and feed operational systems in real time, and improve visitor identification for more accurate visitor counts and more relevant personalization.

Your e-business success accelerates now and into the future

Metronome eliminates the problems in getting accurate information specific to your e-business and opens up your site for optimization and experimentation. Your requirements will not remain static so you need an analytics platform that will support your business accurately and efficiently through change after change. Metronome's solution moves you beyond tagging troubles into high performance site monitoring, measurement and optimization. With an accurate picture of your site traffic, you can optimize your site to drive revenue, increase customer loyalty, fix problems, detect fraud and increase your profitability.

Metronome Labs Eliminates Your Tagging Troubles

Fast, simple, risk-free installation saves time and money

- No changes to your site or systems means no risk to your production site
- Cut testing effort risk and cost while testing only with the production system
- Eliminate risk of changes or errors in your operational systems or data
- Implement changes on the fly whenever your business or data needs change
- Eliminate the time and effort to develop, test, deploy and maintain tag scripts

Fully integrated data increases your business effectiveness

- Join web data with corporate data warehouses and operational systems
- Improve your site personalization with data modeling
- Use real-time alerts to act immediately on high response, failures, etc.
- Control access and use of your data for analytics, operations and more

Eliminating site performance drags improves visitor satisfaction

- Eliminate load on servers and systems with passive data capture
- Deliver pages to visitors faster when you eliminate script downloading
- Make your pages available to visitors faster without script processing
- Eliminate the need for synthetic performance testing with precise timing data

Better security reduces risk, protects your site and your reputation

- Capture data passively inside your firewall for maximum security
- Keep customer data under your control, not across the Internet or off-site
- Use forensic data to identify hacking attempts and site attacks
- Close the doors that distributing script code can open into your systems

Complete and accurate data delivers more actionable insights

- Track every page on your site without altering it...even dynamic pages
- Track every object on every page, even ads served, PDF downloads, etc.
- Capture both server and client data for an accurate record of every session
- Recognize visitors accurately for more precise metrics and personalization

Contact us today for better e-business results

With Metronome Labs on your team, you'll accelerate your e-business success. Better site information faster and at lower total cost puts you in control of every aspect of your site no matter how fast your questions change or your site grows. To get started, call us today at +1 (412) 434-4911 or email us today from our website, www.metronomelabs.com.

About Metronome Labs

Metronome Labs LLC delivers increased e-business productivity by providing a single platform to monitor, measure, and optimize all aspects of your complex e-commerce web site. Based on passive data capture technology, Metronome solutions deliver complete and accurate data in real time and with a lower total cost of ownership. Metronome solutions are used by leading online enterprises, including over 20 of the Internet Retailer Top 500 sites, for performance monitoring, traffic analysis, visitor behavior, fraud detection, search optimization and other applications. For more information, visit our web site at www.metronomelabs.com.