

SOFTWARE ANALYTICS

You Rely On Software To Run Your Business
Learn Why Your Software Should Rely on Software Analytics

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**THE BIG DATA
GROUP**

Underwritten by



1. INTRODUCTION

Legendary investor and founder of Netscape, Marc Andreessen, has famously said “software is eating the world.” That’s because software, combined with large quantities of data, is disrupting many traditional industries, from communication to transportation, from commerce to travel.

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Today, software is at the core of nearly everything we do. So it’s crucial that we not only have the insight necessary to make that software run better but also to understand what that software is telling us about our business so we can make better decisions.

Software takes many different forms, from email and text messaging that facilitate communication to Ecommerce shopping carts that enable purchases. Software is core to how we communicate, make purchases, and acquire, serve and scale our customer bases.

But our use of software doesn’t stop there. Today we use software, in the form of apps, to summon cars to get us from one place to another. We use software to book places to stay. We use software to order everything from apparel to furniture, from books to meals. In fact, we use software so much that quite often we may not even notice we’re using it.

2. THE PROBLEM

We rely on software to run our businesses. But how do we gain *insight into* that software so we can make it run better and *insight from* that software so we can make better business decisions?

Without properly functioning software, millions of businesses would be unable to communicate with their customers and employees, sell goods and process payments, or deliver on their business promises. And without insight from our software, we lose out on opportunities every second to learn how to better serve our customers, clients, and partners.

So how can you use software to ensure your customers receive the absolute best experience possible every time they interact with your company—whether that means using your web site, talking to a customer service representative or receiving a package? The answer is Software Analytics.

3. THE SOLUTION

As software itself has grown in importance to be at the core of modern businesses, so too has Software Analytics, a category of software that has been evolving in a number of forms for over a decade.

Software Analytics gives us *insight into* the software we rely on so we can make it run better and *insight from* that software so we can make better decisions.

Software Analytics gives us insight into how the software our businesses rely on is operating so that we can tune infrastructure and applications to run optimally. It also gives us insight from that software so we can make smarter business decisions.

Software Analytics gathers billions of metrics called events from the software that powers your business.

Event metrics come in many forms. At one end of the spectrum, these metrics include infrastructure events like disk full and CPU spike errors. There are application event metrics about web pages that are loading slowly or database queries that are taking too long to complete.

At the other end of the spectrum are business events. These are the events that measure the product pages your customers view, the features they use (or don't use) and the items they add or abandon in online shopping carts.

All these events by themselves, sometimes as many as tens of millions per day for any given business, are virtually impossible to act on without the right software to analyze them.

The good news is that Software Analytics quickly and easily transforms these raw events into actionable insights.

You can use these insights to optimize not just your infrastructure and applications but your marketing, sales and customer service as well. Software Analytics gives you far greater insight into your software and your business than you've ever had before—all with event data that in many cases already exists.

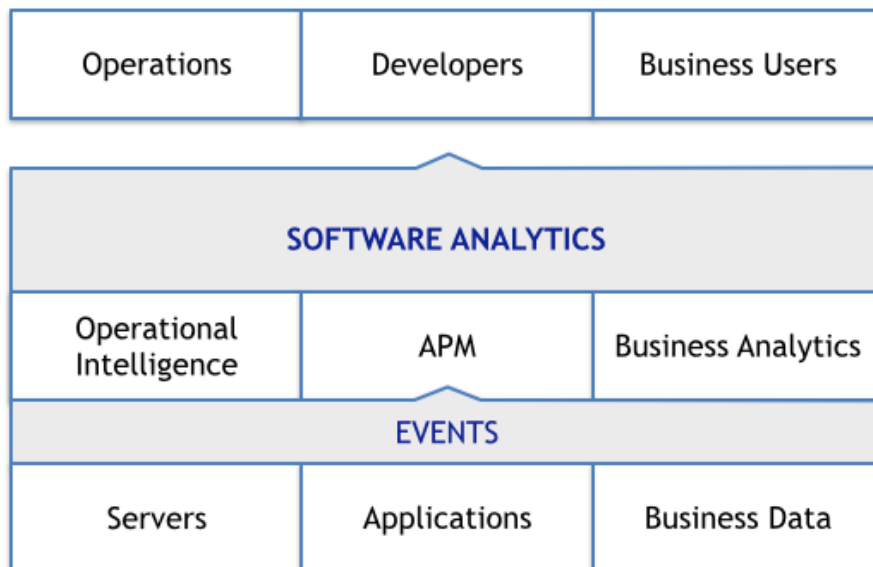
Software generates billions of events. Software Analytics transforms those events into actionable insights.

4. THE SOFTWARE ANALYTICS LANDSCAPE

We are in an age of disruption—powered by software.

Amazon is using software to disrupt the traditional retail market by making it possible to order nearly anything online. Airbnb is changing how we choose where to stay with its innovative peer-to-peer lodging approach. Uber is upending traditional systems of transportation and logistics with its innovative mobile applications.

These are just a few examples of companies that are using a combination of software, mobile technologies and Big Data to improve our day-to-day lives.



These companies depend on software to power their businesses. And they depend on Software Analytics to understand how they can tune that software so that it runs optimally—and so that they can understand what that software is telling them about their business, from initial interaction with customers to on-going product usage.

They can stay focused on delivering great customer experiences because they know that Software Analytics will ensure they know everything they need to know about and from the software their businesses depend on.

Software Analytics includes a broad range of software-related analytics, including Operational Intelligence, Application Performance Management (APM) and Business Analytics, shown in the chart above.

Application Performance Management—For Developers

At the core of Software Analytics is Application Performance Management (APM).

With the growing importance of software to today's businesses, developers are playing an increasingly important role in business success. APM can quickly convert raw data into insights, making developers more efficient and avoiding time wasted dealing with one-off analytics requests.

Developers use APM to monitor, troubleshoot and improve the performance of production applications. With APM and often just a few lines of code, developers can quickly understand the root cause of slow queries, slow loading pages and other application issues.

The result is happier customers who are far less likely to abandon your web site due to performance issues. Since your web site is often the first interaction new customers have with your company, implementing and maintaining great site performance is one of the most effective steps you can take to deliver a great customer experience.

When it comes to APM, New Relic provides an easy-to-adopt and cost-effective SaaS-based solution. Developers can quickly deploy the solution and start reaping the benefits. The SaaS nature of the New Relic solution also means minimal up-front investment is required. Offerings are available from AppDynamics, CA, Compuware, Crittercism, HP, OpTier, SolarWinds and SpiceWorks as well.

Operational Intelligence—For Operations

On the infrastructure end of the spectrum, IT Operations uses Operational Intelligence to monitor, troubleshoot and identify trends in IT infrastructure. Several vendors have offerings in this space, including HP with its ArcSight product, SolarWinds, Splunk and Sumo Logic. These products analyze real-time and log data from IT infrastructure such as networking equipment and servers to present actionable insights to IT Operations.

Operational Intelligence products can alert IT administrators when network or system failures occur. Operations can use these products to search through logs quickly and easily and find correlations between issues that can help in performing root cause analysis.

Business Analytics—For Business Users

Business users utilize business analytics to gain actionable insights they can apply to their job function, from sales and marketing to finance, human resources and supply chain.

A wide range of vendors are active in this area including Adobe (Omniure), Flurry and MixPanel. Also well-known are visualization products from Qliktech and Tableau. These

products enable users to convert complex analytics data into its visual equivalent—interactive charts and graphics that are easy to understand and interpret.

This area is evolving to include vertical specific applications that help business users address specific business issues. SurveyMonkey, for example, both collects and analyzes enormous quantities of survey data; marketers can use such data to understand and serve their customers better. New offerings like New Relic Insights are beginning to offer business-related analytics and could be a platform for future vertical or business-targeted solutions.

5. SOFTWARE ANALYTICS IN ACTION

Software Analytics is helping companies in many different areas understand, manage and optimize the software that runs their businesses. Here are two sample use cases from the areas of Ecommerce and Software-as-a-Service (SaaS).

Ecommerce Use Case: Hitting Your Targets

When it comes to serving up pages on your site, from marketing pages intended to help your visitors figure out what they want to buy to ordering pages where users make purchases, speed is critical. Over 67% of all online shopping carts are abandoned. The top reasons? Price and site performance/availability.¹

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Just like any business, Ecommerce companies are driven by sales. However, Ecommerce is a highly transactional business, where just one slow day can have a ripple effect, disrupting monthly and quarterly revenue targets.

Ecommerce companies collect and study troves of historical data to identify patterns in buying behavior. This helps them predict how seasonality, introducing new product lines, and other significant factors may affect sales. What this data doesn't do is provide them with visibility

into what's happening on their web sites in real time. Finding out tomorrow that today's sales were down by 15% is 24 hours too late.

This is where Software Analytics comes in to play. Software Analytics collects real-time data from live production software and informs decision makers about what's happening with their business in the here and now. In Ecommerce, the sooner a company knows about a decline in sales the faster it can implement a change to right the ship.

¹ <http://baymard.com/lists/cart-abandonment-rate>
<http://www.statista.com/statistics/232285/reasons-for-online-shopping-cart-abandonment/>

For example, an Ecommerce company could leverage a real-time analytics platform offering, such as New Relic Insights, to be notified in real-time if daily sales are missing their targets. They could be missing their targets because the site is having problems or it could just be a slow day.

In either case, the teams can use real-time data to proactively get sales heading back in the right direction—whether that means a bug fix, a flash sale, or a targeted promotion to a particular segment that is under performing. Software Analytics can turn what would have been a bad sales day into the best day of the month in a matter of minutes.

Today, Software Analytics can help you improve site performance and availability so that your site is available when customers want to buy. And in the future, Software Analytics will help you determine the ideal prices for products to deliver optimal conversion rates combined with the highest margins possible.

SaaS Use Case: Reducing Churn, Increasing Engagement

For a Software-as-a-Service (SaaS) business, whether the software is used for content management, developer tools, or customer resource management, the software is the business. How can a SaaS business leverage Software Analytics? Let's first take a brief look at how a SaaS business makes money.

A mere two percent increase in churn erodes two-thirds of your average customer lifetime value.

SaaS businesses generate revenue by selling subscriptions to customers. The customer gains access to the SaaS website for some amount of time by paying a recurring fee.

When a customer doesn't renew a subscription, they lose access to the website and the business no longer gets revenue from that customer. SaaS businesses call this churn, and it is something they work hard to avoid.

According to one study, an increase in churn rate from just three percent to five percent erodes two-thirds of the average customer lifetime value of a SaaS business.²

Why do customers churn? That's the million, or perhaps billion, dollar question. It depends on the business, but in most cases it's one of two things. Either the customer no longer sees value in the service or the service is critical to the customer, but the website isn't dependable—it's slow, buggy, or frequently unavailable.

² <http://pando.com/2013/06/15/what-the-data-reveals-about-how-to-make-saas-secret-sauce/>

How does a business know if their customers are at risk for churn? Recall, that for a SaaS business, the software is the business. And that's good news, because embedded in the software is all the knowledge needed to keep customers happy and using a SaaS solution for years to come.

Of course, the challenge is getting the knowledge out of the website and into the hands of the right people at the right time. But with Software Analytics businesses know what their software knows, in real-time, as it happens:

- Which customers are logging in and which aren't?
- Which customers have accessed the service less over the last day, week or month?
- If customer "ABC" is only using 10% of the service's functionality
- If customer "XYZ" has never used the killer feature
- If customer "ABC" always gets an error when they access a specific feature
- Are users using the new features you built into your product?
- The contact information for Customer "ABC's" heaviest user
- The contact information for the key stakeholder at customer "XYZ" who just waited 10 seconds for a page to load
- If the site is slowing down for a large number of users and why

If you operate an Ecommerce site, a hosted SaaS application, an online game, or one of the millions of mobile applications now available, it's critical to know not only which product features your users are using but how those features are performing. With these kinds of actionable insights, you can focus scarce development resources where they count and keep your customers happy.

6. CONCLUSION

Because software has become more important, so too has Software Analytics. Software Analytics includes well-known categories like APM and Operational Intelligence, along with newer approaches that are more focused around Business Analytics.

Software Analytics makes new product development easier than ever. With just a few lines of code added to your application, you can easily capture the event stream your users generate when they use your web site or application. With Software Analytics, there's no more flying blind when you release new features—you'll know immediately whether those features are a hit with your users.

Historically, such data either wasn't available at all, or it was buried in log files or database entries that only systems engineers or developers could access. With Software Analytics, product managers, designers and analysts can easily access real-time data about how your products are being used.

With Software Analytics, developers and systems engineers can stay focused on their key tasks instead of handling interrupt-based requests for product data, while sales, marketing and product management can get direct access to important product usage information.

Innovation is happening across the category as a whole from New Relic and others. As a result, businesses are able to accomplish objectives they've wanted to but couldn't accomplish before. In particular, it is now possible to turn billions of metrics about software (and therefore about customer interactions) into actionable insights.

Software truly is "eating the world." With Software Analytics, you can rest assured you will get the insights you need to operate your software effectively. And you'll know you'll get the insights you need from your software to make the best decisions possible for your business. With the Software Analytics category evolving so rapidly, the space is clearly one to watch.

FOR MORE INFORMATION

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The Big Data Group is a leading provider of strategic consulting, market research and advisory services to technology buyers and vendors.

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