



A New Approach to Business Intelligence:
Rapid-fire BI

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You work for a mid-sized or large organization with hundreds to thousands of employees. Your organization has silos, divisions, departments, standards, initiatives, roadblocks, politics, and players. You are being asked to standardize on a big, slow-moving, heavy duty BI package to leverage your corporate data warehouse. You've also heard of a new generation of business intelligence—led by Tableau Software—but you're not quite sure what it does or how it can help you. This whitepaper is for you. It will help you understand "What is this new generation of rapid-fire business intelligence and how can it help my organization?"

Rapid-fire BI is a new approach to providing true business intelligence. While traditional BI platforms perfected scheduled, parameterized reports, they do not do what they now espouse: provide self-service business intelligence.

The new approach to business intelligence—rapid-fire business intelligence—is delivering dramatically better business results. Most importantly, it is much easier to deploy, administer and scale. It also allows users of all levels to ask and answer questions themselves – in a matter of seconds. Rapid-fire business intelligence lets business users explore and analyze their data independently, while reducing the burden that heavy BI platforms place on IT.

So how do you recognize rapid-fire BI? To deliver the advantages, rapid-fire business intelligence software has certain characteristics.

The Five Attributes of a Rapid-Fire BI Solution

	User-Driven Approach
Analytics and reporting are decentralized and produced by the people using the results. IT provides the infrastructure, but business people create their reports and dashboards.	
	Easy Visual Interfaces
The user interfaces leverage the human brain and natural curiosity; results are visual and interactive. People get answers faster – they're smarter and more effective. If people don't find the software easy to use, they won't use the software. End of story.	
	Flexible Configurations
Companies need BI based on today's needs without cramping growth. Whether today's need is one business analyst with one data source or 10,000 field representatives accessing hundreds of sources, software needs to be configurable and priced to support that.	
	High Performance
BI needs to run fast. Your BI solution must have multiple means of getting that performance. Different departments and organizations have different needs.	
	Easy Administration
IT can support the new BI application with existing staff and infrastructure. No professional services (or fees) required.	

User-Driven Approach



Analytics and reporting are produced by the people using the results. IT provides the infrastructure, but business people create their own reports and dashboards.

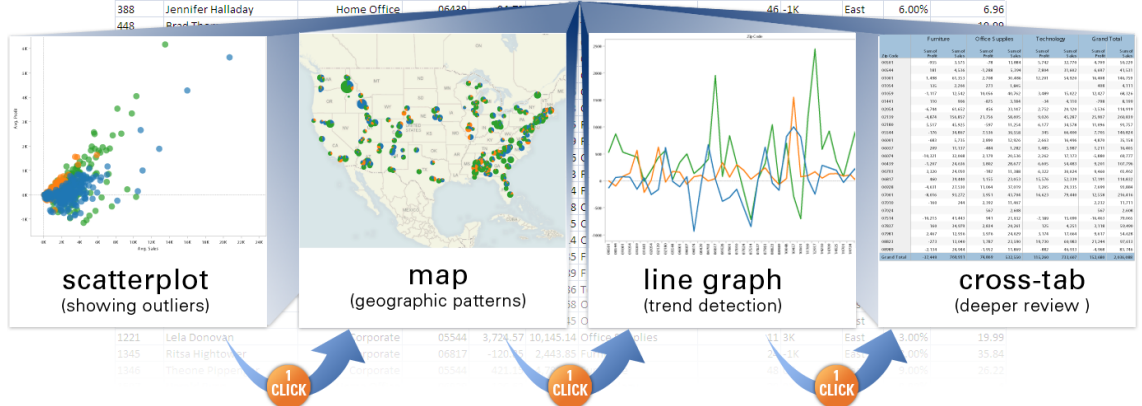
The most important characteristic of rapid-fire BI is that business users drive the applications, not specialized developers. The result is that everyone wins. The IT team can stop the backlog of change requests and start spending time on strategic IT issues. Users can serve themselves data and reports when needed.

The traditional practice of trying to anticipate the data and analytic needs of each employee is impossible – can an IT department really read the minds of business users? IT departments need to be freed from the burden of creating reports for users and from dealing with change requests. Business users are more productive when performing their own analysis given the proper tools.

To do their own analysis, business users need next generation BI solutions that connect to and read the usual data warehouses (including OLAP) as well as desktop data such as text files and Excel files, without having to reformat or migrate that data into warehouse BI systems. Dashboards and reports are easily built from disparate data sources, enabling instant deployment and easy modifications.

FIGURE: Rapid-fire business intelligence allows users to move from tables to interactive data visualizations to dashboards with just a click. They can quickly explore, visualize and share data without continual IT support.

Order ID	Customer Name	Customer Segment	Zip Code	Profit	Sales	Product 1 - Category	Order Quantity	Profit (bin)	Region	Discount	Shipping Cost
3	Muhammed MacIntyre	Small Business	07514	-213.25	261.54	Office Supplies	6	-1K	East	4.00%	35
6	Ruben Dartt	Corporate	10457	-4.64	6.93	Office Supplies	2	-1K	East	1.00%	2.56
36	Brad Thomas	Home Office	06074	657.477	2,484.75	Technology	46	0K	East	10.00%	4.2
129	Pauline Chand	Corporate	06439	-22.59	32.72	Office Supplies	4	-1K	East	9.00%	8.19
195	Brad Thomas	Home Office	06074	260.87	1,315.74	Office Supplies	34	0K	East	3.00%	13.89
224	Bart Folk	Corporate	06439	-33.55	184.86	Furniture	25	-1K	East	9.00%	5.21
224	Bart Folk	Corporate	06439	-149.92	528.5	Office Supplies	33	-1K	East	4.00%	10.68
224	Bart Folk	Corporate	06439	-65.43	267.85	Office Supplies	44	-1K	East	4.00%	5.15
384	Sonia Cooley	Corporate	06817	-1,820.84	7,666.04	Furniture	50	-2K	East	2.00%	80.2
388	Jennifer Halladay	Home Office	06439	64.24	1,000.00	Office Supplies	46	-1K	East	6.00%	6.96
448	Brad Thomas	Home Office	06074	260.87	1,315.74	Office Supplies	34	0K	East	3.00%	13.89



All too often, power users, analysts and business users alike attempt to work around BI restrictions by resorting to spreadsheets, but this approach no longer works. Spreadsheets lack controls, create operational risk and just aren't powerful enough to analyze volumes of data. In fact, if you answer yes to any of the following questions, you're not using rapid-fire BI:

- Are web reports and dashboards failing because they are too inflexible and baked-in?
- Is a "change request" required to create a new report or dashboard? Is there a backlog of these change requests?
- Are users answering their on-the-fly questions in Excel? Are people frustrated by the time it takes to answer new questions?

So, what are the important elements to look for when evaluating BI on its user driven approach?

Eliminates Need for IT Report Writing or Change Requests

Does the software eliminate the need for IT staff to create new reports or modify existing ones? Can users create their own reports with little guidance or help? Can end users or IT staff make changes without the need for professional services or specialized skill sets?

Collaboration Capabilities

Can users publish interactive visualizations and dashboards securely to the web in seconds? Can users anywhere in the world (with secure access) see and interact with the results using any web browser?

User Publishing and Sharing to Designated Groups

Can users create and publish visualizations and dashboards based on personalized data to designated groups? Sharing is fast and tailored.

Users Drive BI at AAA Allied Group

AAA Allied Group, an automobile association serving over two million members in the Midwest and South, was frustrated that its business-line employees did not have access or control over information when they needed it and that developers were stuck building reports using Crystal Reports. VP of Marketing Thomas Vaughn and VP of Information Services Rob Pickering decided to make a change. They brought in Tableau, and business line employees are now interacting with the data themselves and getting the answers they need directly. Says Vaughn, "Not only is Tableau an extremely cost-effective business intelligence software solution, but by deploying Tableau broadly we are reducing our need for expert developers of Crystal Reports. We are deploying our employees more effectively. Tableau enables us to get more responsive, better quality reports and business dashboards from our business line analysts which leads to better decisions throughout the company. The bottom-line impact is both in cost savings and improved performance."

Easy Visual Interfaces



Analytics leverage the human brain and natural curiosity; results are visual and interactive.

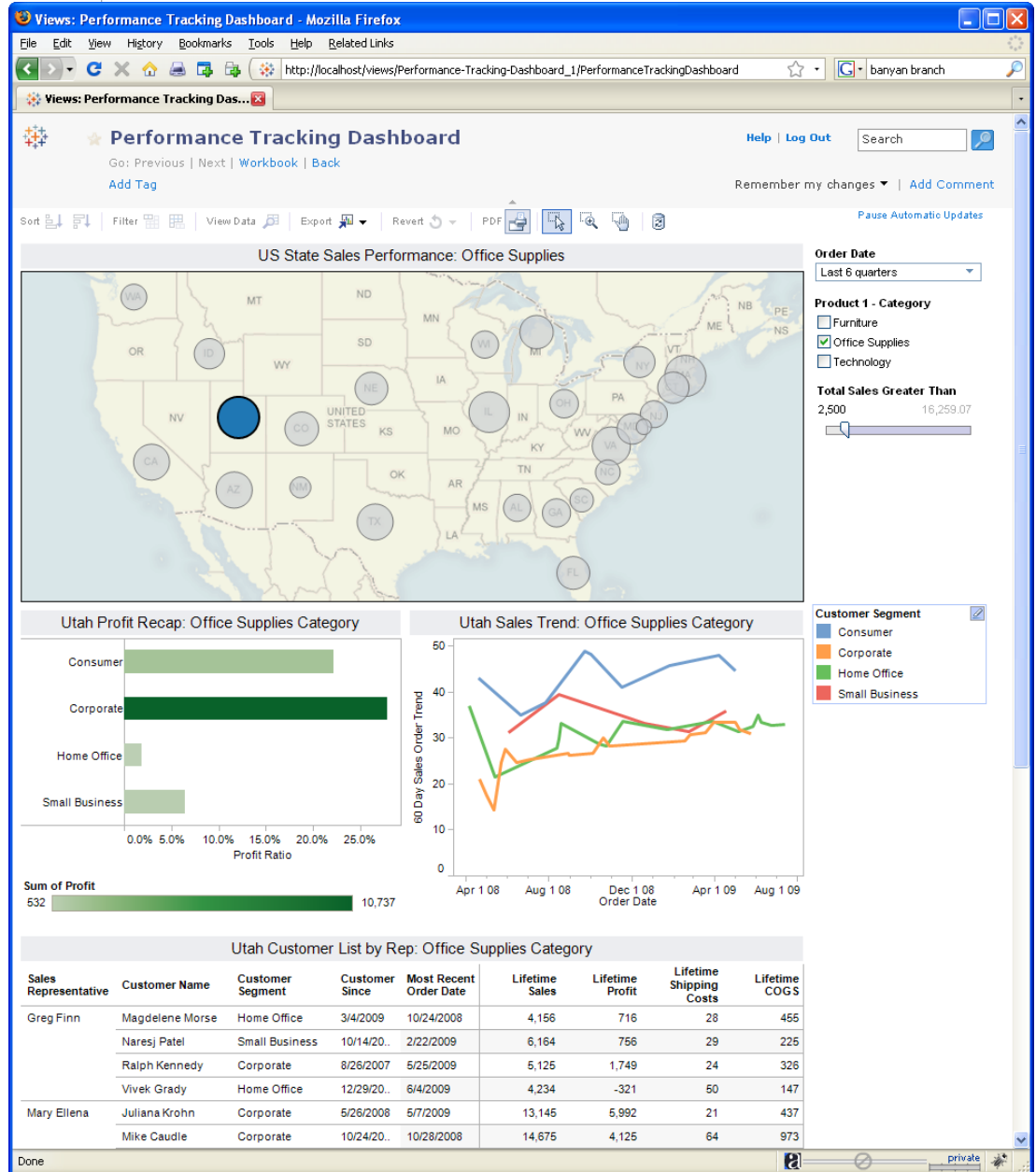
Traditional BI platforms pay little attention to overall complexity. **Over time, they have become hard to use and bloated. Users need tip sheets just to do basic analytics.** In fact, a recent survey called "The BI Report" reports that just 8% of potential BI users actually use their BI applications. In other words, 92% of users do not use the BI tools designed and waiting for them.

Tableau's visual interface means users are thinking about their questions and their data – not about how to use the software.

Rapid-fire BI is based on a new generation of drag-and-drop visual interfaces. They are so easy to use that nearly any user can conduct a broad range of inquiries without training. The software disappears into the background and users focus on their data. (The best way to evaluate a user interface? Obtain a fully functioning trial version and put it to use).

When people access data, the process is quick and easy: e.g., point to a server, identify the data source and tables, and click "OK". Using data from one source with another is a few clicks and as natural as highlighting data in one view and seeing data from another source change. Naturally, users can only access data for which they have permission. Trust and governance are covered.

FIGURE: Tableau's visual interface means users are thinking about their questions and their data – not about how to use the software.



So, what are the important elements to look for with respect to easy visual interfaces?

Interactive Data Visualization

Does the system offer data visualization as its primary means of analysis? Selecting and interacting with graphical representations of data results in computations on the data itself. The analysis process is visual from the beginning, rather than the legacy process of write queries – get data – write report – use chart wizard.

Easy to Use User Interface

Does the software have an easy to understand user interface defined in business terms and not jargon? Do users regard the software as easy-to-use and intuitive? New users are often the best judge of effective user interfaces.

Geographic Intelligence

Everything that happens in an organization happens somewhere. Geographic analysis is critical. Is mapping easy to use and complete, requiring no specialty map files, plug-ins, fees or third party tools?

Drill Down and Drill Through

Can the user drill through to the underlying detail in just a few clicks? Is drill-down/drill-through an automatic occurrence requiring no special scripting or advance set-up? Users should be able to select data graphically and drill to the detailed underlying data within the visualization.

Free Training

Does the provider offer free training classes in multiple formats (online, live) at multiple levels (e.g., introduction, advanced)?

Fox Audience Network Works “10 to 20 Times Faster”

Fox Audience Network is focused on selling website advertising inventory. They're collecting 1.5 to 3.0 terabytes of data a day. They brought in a traditional BI platform hoping to arm themselves with a complete range of capabilities. Unfortunately, they learned the hard way that designing reports and publishing them is a “ridiculously” slow endeavor. They require almost continuous IT support, which means analysts are constantly waiting for help. Analysts were spending 80% of their time grinding/ sourcing the data and only 20% analyzing it. However, things changed once they discovered Tableau Software, a software suite built on 21st century BI principals. Now not only are users now independent of IT, they're seeing new visual patterns in their data and are working “10 to 20 times faster.”

Flexible Configurations



Companies need to deploy BI based on today's needs without cramping future growth.

Now more than ever, the economy mandates that organizations spend wisely on software licenses as they're needed. But because traditional BI was so complicated to install and maintain, no vendor could afford to offer customers small user bundles. Worse still, every connector to another data source and every module for added functionality often meant an additional license fee. Yet, people want to discover and learn about applications starting with one user.

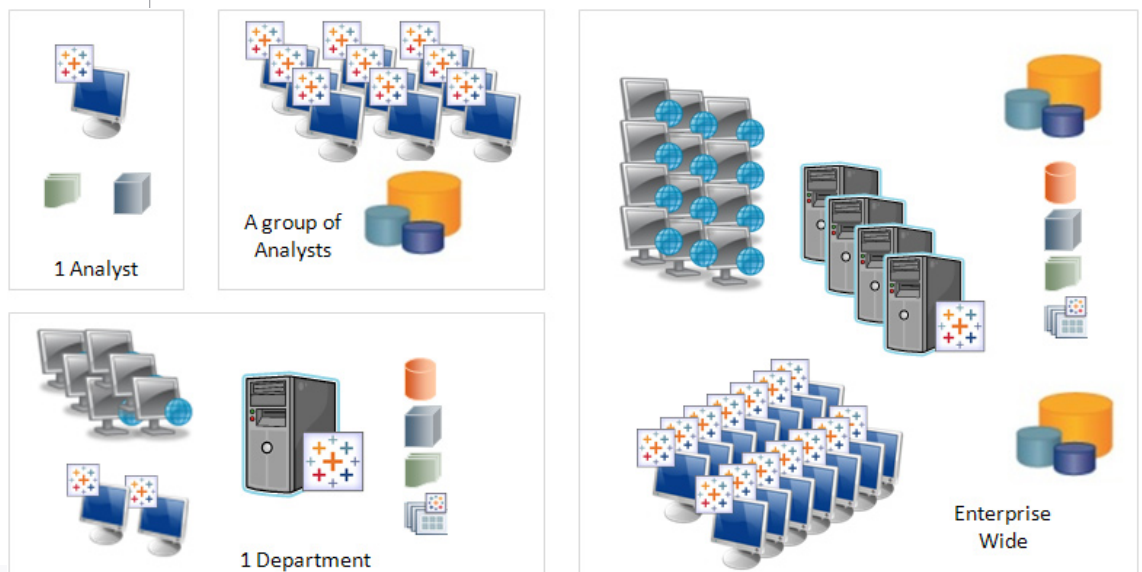
Traditional BI required organizations to buy large minimum-configuration licenses to meet "potential" needs – not actual needs. Much of the software went unused. Answering yes to the questions below is highly indicative of traditional BI:

- Do you have a high number of licenses not yet deployed?
- Does the platform force you to add users to a suite of modules even though you know they'll never touch most of them?
- Have you hesitated in using all your available databases and sources because the BI platform either charged more for that capability or didn't have the horsepower to handle it?

Installation and deployment should not require professional services or specialized IT help. New generation BI allows organizations to buy and deploy licenses as needed – one license, ten or thousands. And they allow IT and users to access virtually any and every data source on the fly. Limits are set by hardware and IT, not by the BI software.

Even better, proofs of concept should be as easy as downloading a full-function trial software over the web and installing wherever it is needed.

FIGURE: Tableau supports virtually any configuration, from one analyst working with local files to thousands of users accessing dozens of data sources via the web.



So what are important elements to look for?

Flexible Configurations

Does the vendor provide software the way you want to buy it: a single license for a single desktop; multiple licenses for a group; browser-based deployments for hundreds or thousands? Can you scale affordably as your needs demand?

Access Unlimited Number of Data Sources

Does the software allow users to connect to virtually any data source as part of the standard license? Can a user connect to an unlimited number of sources within a single analysis?

Full Version Trial Software Available for Free

Can all versions of the software be trialed at no cost and put to use against production databases? Be wary of software that can't be installed and used on a trial basis – trying software is often how employees make a determination as to their need for the application.

Provides Free Help Desk Support

Does the vendor offer free help desk support and free training videos?

Mid-sized Manufacturer Starts Small and Gets Big Results

The IT Vice President at Blastrac Manufacturing needed to provide weekly reports and information to all operations worldwide, including sales, finance, and manufacturing. Data existed in 6 different systems including disparate ERP and BI systems. Collecting and collating the data took six different analysts over a day each; report distribution was insecure (over email) and users complained that the reports were either too detailed or not detailed enough. Fortunately, Blastrac brought in Tableau Software. The first phase of deployment was one installation of Tableau Desktop sharing PDF reports. They discovered Tableau's free Reader and deployed that to the senior management team. Then they added four more Tableau Desktop licenses to serve up analytics. The next step was to bring in Tableau Server to serve their hundreds of US staff. And, a few months later, they expanded to provide Tableau Server worldwide.

High Performance



BI needs to run fast and to scale. Your BI solution must have multiple means of getting that performance.

Business users are impatient. BI needs to be fast. To get that speed, traditional business intelligence platforms require a total replication of data into the BI system's proprietary format.

So instead of reaping the rewards of better analytics, organizations are paying employees to shuffle data back and forth, from one format to another. Ask a knowledgeable employee about their time spent on data; chances are he or she will say they spend 80% of their time moving and formatting data and just 20% analyzing it.

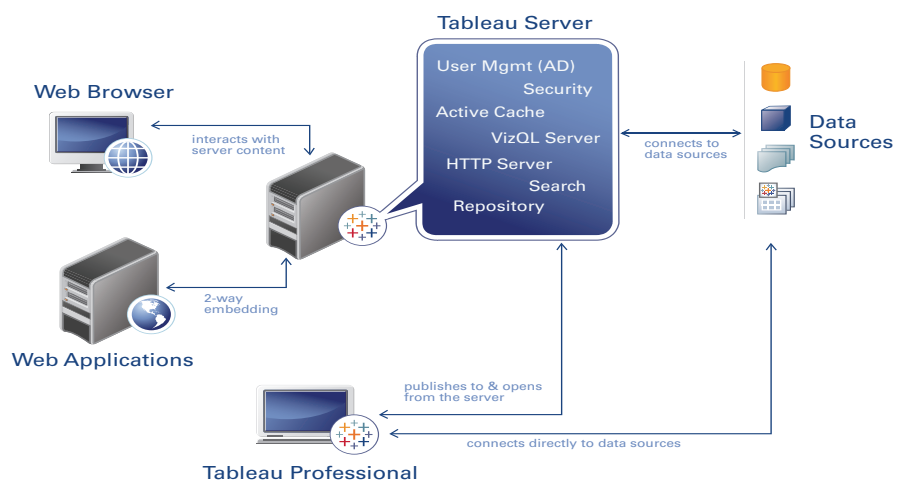
Rapid-fire business intelligence flips that ratio. It provides multiple approaches to performance so that the organization can choose the most efficient option to deliver performance. Whether it's through effective caching, smart querying, memory-based storage, virtual tables or behind-the-scenes extracts, rapid-fire BI means organizations efficiently gain from performance layers. And scaling to thousands of users is no problem.

If you answer yes to any of these questions, you're losing out on the performance improvements of rapid-fire BI:

- Does your BI solution force you to use a "metadata" or abstraction layer in order to access and report on your data rapidly?
- Does your BI solution force you to replicate your data even though you've invested heavily in an enterprise data warehouse and/or fast databases?
- Is your BI solution reliant on elaborate scheduling and delivery options?

Rapid-fire BI is different.

FIGURE: Installed in minutes, Tableau Server architecture reads virtually any data or database and can scale across organizations, customers and suppliers.



Does Not Require Transformation into Proprietary Data Silos

Does the software avoid paradigms that require extracting or transforming data into a proprietary format or silo? Sometimes having the option for data extraction and scheduled updates is critical. Rapid-fire BI needs to accommodate both.

Application Layer Uses the Power of Existing Infrastructure

Does the application layer leverage the power of your infrastructure? Does it ask the database for calculated result sets? Your existing infrastructure should be leveraged to bring back the data in forms where the enterprise data warehouse does most of the data summarization and selection.

Allows Users to Examine and Understand Data Across Data Sources

Does the software natively enable users to look at two or more data sources at the same time and in the context of each other? Data is not always in one place or one source and so the software must make it easy for users to see and use multiple sources of data.

Cornell Delivers 10 Times the Analytics in Half the Time

Cornell University struggled to enable its users with capabilities to produce and manage their own dashboards for KPI tracking. A project using a traditional BI platform ran for nine months with no results and no adoption. Cornell's data IT administration team brought in Tableau and suddenly users were accessing and using the dashboards, and creating their own in collaboration with the IT team. When Cornell began using Tableau, they estimated a 50- to 75-percent reduction in report development time, and now almost two years later, it is clear that the savings are in the 75- to 90-percent range. Said Cindy Sedlacek, director of data administration and reporting for Cornell's College of Arts and Sciences, "the savings have been so significant that it has allowed the team to focus on deploying data and metrics in additional functional areas much sooner than anticipated. Switching to Tableau enabled the KPI team to reduce its FTEs from 5.5 to 2.5 and to deliver 10 times as many analyses in half the time."

Easy IT Administration



IT can support the new BI application with existing staff and infrastructure.

Traditional BI has been a chore for IT: installation, deployment, programming, report writing, change requests, support and maintenance. This doesn't even include the costly professional services that are periodically required.

- Do changes to your BI solution fall behind the changes in

your business?

- Does every update or upgrade of your BI platform require you to conduct extensive testing and integration planning to make sure nothing “breaks”?
- Are you several versions behind the latest release because you just can’t take the time or resources to roll-out the new version?

If you answer yes to any of these, you’ve got yesterday’s BI.

New world BI makes the life of an IT executive and manager easier. IT should not be stuck creating and running standardized reports but spending time on providing high-value services to the organization.

New world BI has little for IT to install or maintain – often there are no new databases to install or configure, no new middle tier servers, no data modeling exercises, no exacting, transforming and loading (ETL) data from source systems into data warehouses, no week long administrator training classes and no new certifications for IT to achieve. Most importantly, it adheres to existing security and authentication models and does not require new security measures to ensure compliance. Scalability is built-in and can go to thousands of users by leveraging low-cost hardware options.

Even if you’ve got a traditional BI implementation already in place, rapid-fire BI can supplement and improve how your users get value from your corporate data warehouse. Rapid-fire BI can plug in and co-exist.

Uses Existing Database, Security and IT Architecture

Does the software obey existing database and security protocols?
Can it lay on top of existing IT architectures?

Fast, Easy Installation

Does the software install in minutes without complication or specialty skills? The software is be up and running in an hour, not weeks or months.

Connects Directly to Data Sources

Can the software directly read any data source without any data structure or format changes? Whether the data are in text files, Excel spreadsheets, Oracle databases or other data warehouse formats, 21st century business analysis software

Ferrari NA's Small IT Department Finds Easy Road to Rapid-fire BI

The IT department of Ferrari, NA needed a means by which all of their regional offices, suppliers, and dealers could track and monitor auto and parts inventory. When a traditional BI system proposed a cost of over \$100,000 just to get started, Ferrari NA's Director of Information Technology Sandro Levati became discouraged by the complexity and cost of most of the available BI solutions. Levati told IDC, "It was particularly disheartening to be presented with the huge consulting fees associated with the development of custom solutions that would be capable of accessing our data." So Levati and Ferrari turned to Tableau Software. In less than 3 weeks and with an investment of less than \$40,000 fully deployed, Ferrari was able to provide hundreds of far-flung users with business analysis on demand including reports and dashboards at a fraction of the cost of the limited BI pilot. More importantly, Ferrari did not need to hire additional staff (as required by the traditional BI solution), did not have to bring in consultants for an 8-week deployment project, and was able to provide highly responsive IT services that satisfied end-user needs quickly and easily.

Conclusion

The new approach to business intelligence—rapid-fire business intelligence—is how organizations are getting dramatically better business results. But not every business intelligence application promising speed and ease can deliver these rapid-fire BI benefits:

- It installs easily, reads existing databases and has a low maintenance profile.
- Few IT resources are required to implement and support. It integrates with Active Directory, so setup is simple and familiar. The data stays securely in your existing database.
- It can install via web download onto your hardware and is operational in minutes. Hardware requirements are minimal – no need for a dedicated server.
- Web-based users can view the content via their browser without any downloads or plug-ins.
- Its results can be embedded into corporate portals like Microsoft SharePoint and other web applications.

- Rapid-fire BI offers free training and great support to end users, so IT people can be freed up to focus on strategic issues.

Rapid-fire BI provides end-user freedom in an environment that leverages existing IT infrastructure and recognizes that not all data is in the enterprise data warehouse. It's about where people can take advantage of the new generation of easy visual interfaces and visual intelligence that make trends and outliers easy to detect. And it's about low cost of ownership. It grows to fit your needs on your timeline, leverages your existing infrastructure as much as possible and never requires long implementation phases or specialty technical skills.

Tableau is a software company that's doing rapid-fire business intelligence right: giving people the tools to get answers right now, right when it's needed. Based on breakthrough technology from Stanford University, Tableau is the next generation of business intelligence software. Try our free trial and discover rapid-fire BI.

About the Authors

Dr. Chris Stolte, VP, Engineering & co-founder

Chris is responsible for product strategy, product design and engineering. Prior to co-founding Tableau, Chris spent six years researching the analysis and exploration of multidimensional databases at Stanford University, culminating in the Polaris system which was the basis for Tableau's first products. This research resulted in fourteen landmark research publications and two large-scale visualization systems. Chris was also the CTO and co-founder of BeeLine Systems, a visualization software company that developed a revolutionary map rendering system and was purchased by Vicinity Corporation (NASDAQ: VCNT). He is a co-inventor on five patents related to information visualization. Chris holds a Ph.D. in Computer Science from Stanford University, and a B.S. in Computer Science from Simon Fraser University.

Daniel Jewett, VP, Product Management

Dan has more than 20 years of product management and development experience in a variety of technical and marketing positions particularly for business intelligence software companies. Prior to Tableau, Dan was an early employee at Brio Software where he served in numerous senior roles including VP, Business Intelligence and VP, System Architecture. Dan helped build Brio to hundreds of employees and thousands of customers and continued through its IPO and eventual acquisition by Hyperion Solution. At Hyperion, he played a key role in market positioning, strategy decisions, and the overall product strategy. Dan holds a master's degree in business administration from California State University, Long Beach, and a Bachelor's degree in business (management information systems) from California State University, Sacramento.

Professor Pat Hanrahan, CTO & co-founder

Pat is the CANON USA Professor of Computer Science and Electrical Engineering at Stanford University. Pat's research has included visualization, image synthesis, and graphics systems and architectures. He was also a founding employee of Pixar (NASDAQ: PIXR), where he was the chief architect of the RenderMan™ Interface - a protocol that has revolutionized the modern graphics and entertainment industries. Prior to Pixar, Pat directed the 3D computer graphics group in the Computer Graphics Laboratory at New York Institute of Technology. Pat is the winner of two Academy Awards, the Spirit of America Creativity Award, the SIGGRAPH Computer Graphics Achievement Award and the SIGGRAPH Computer Graphics Lifetime Achievement Award. He is also a member of the American Academy of Arts and Sciences.



About Tableau Software

Get a free trial copy of Tableau Software to test the power of rapid-fire BI at www.tableausoftware.com/trial. Tableau Software, a privately held company based in Seattle WA, provides business intelligence software applications that are fast to install and easy to learn. The power of web-based data visualization and BI enables business people to quickly make discoveries and share insights from all types of databases including large data warehouses.