

# Hyperconverged Analytics: Fast-tracking better business outcomes

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# Master your analytics environment

Leading organizations understand that data and analytics, when used well, have the power to drive sustainable competitive advantage, particularly in today's fast-moving and ever-changing environment. Knowing what is happening in their business now—and, more importantly, what will happen in the seconds, minutes, days, and weeks to come—reduces risk and uncertainty while increasing resiliency and opportunity.

Still, many organizations struggle to get the actionable insights they need from traditional analytics tools like artificial intelligence (AI), data science, and machine learning (ML) technologies. What they've discovered is that while these tools generate a deluge of data, most of that data is stored in siloed dashboards and reports that are often inaccessible to decision makers in real time. What's more, those tools are rarely integrated with their cloud-based data repositories and data management systems, further lengthening the time between event, analysis, and response.

The most successful companies know that to drive better business outcomes, they must be able to identify insights in real time and then use those insights to inform decision making. They're turning away from traditional static, siloed business intelligence tools and toward a more holistic fusion of technology and teams. TIBCO calls that approach **Hyperconverged Analytics**, a convergence of analytics, business intelligence, and data science that extracts maximum value from your data and generates the insights you need when you need them to transform your organization.



# Create a smarter business

## What is hyperconverged analytics?

Hyperconverged analytics brings visual analytics, data science, and streaming capabilities together in a seamless experience that delivers immersive, smart, and real-time business insights in an easy-to-use and tailored way.

Powered by TIBCO and Amazon Web Services (AWS), TIBCO Hyperconverged Analytics software brings together human insights, data, automation, and machine learning on a single platform linked directly to your AWS data sources. It fully leverages the value from disparate enterprise and cloud-based systems to create a comprehensive, cohesive business intelligence nerve center that allows you to spot and act on opportunities and risks quicker and with more confidence.

### Hyperconverged analytics

- Brings all your analytics tools together in one platform that seamlessly connects to your cloud data.
- Democratizes data access, allowing business users to easily get the data they need to develop actionable insights without having to rely on your IT department.
- Shortens the time between business events, the real-time analysis of those events, and the resulting actions, creating a competitive advantage.

Simply put, hyperconverged analytics creates smarter businesses.



# Uncover high-value insights

TIBCO Hyperconverged Analytics was built to drive better business outcomes by delivering deeper, more valuable insights than traditional business intelligence. Hyperconverged analytics seamlessly supports all styles of analytics—descriptive, diagnostic, predictive, and prescriptive—to give you a complete picture of the state of your business and confidence in your decisions.

By seamlessly applying analytics applications to all your data sources—whether in the cloud or on-prem, both at rest and in motion—smart hyperconverged systems provide visibility into behavioral and transactional event streams across channels and interactions. The ability to run calculations on those events in real time means you'll have the up-to-the-minute insights you need to drive advanced decision models and inspire next actions. Plus, you'll be able to share your knowledge in real time, creating a cycle of learning that benefits your entire organization.

The Bank of Montreal (BMO) Financial Group is one of Canada's preeminent financial institutions, serving customers in North America and around the world. BMO relies on TIBCO Hyperconverged Analytics to deliver an exceptional, personalized customer experience by cutting through large volumes of data to glean insights in a timely manner. Hyperconverged Analytics provides real-time information, identifies key incidents, simplifies and automates processes, and creates data visualizations that lead to more efficient decision-making for customers across physical bank branches, call centers, and digital channels. For example, with TIBCO automated workflows and resource assignment, BMO has dramatically shortened commercial lending and mortgage approval times. Further, by combining historic customer data with real-time information from interactions as they happen, BMO can quickly and easily create relevant and timely account offers tailored to customers' individual needs. As a result, time to market has improved by 30 to 50 percent, and offer acceptance has tripled.

## BMO Financial Group

**30-50%**  
faster time-to-market

**Real-time**  
reaction

**3x**  
greater offer acceptance

# | Maximize efficiency

Beyond the top- and bottom-line business benefits of high-value insights, the hyperconverged approach to analytics maximizes organizational efficiency:

- By leveraging the convergence of immersive and smart analytics, non-technical workers can access and follow guided recommendation systems built into analytics workflows and then act on AI-driven suggestions, without the involvement of IT.
- “Citizen developers” and other “information explorers” can take advantage of immersive apps built on constantly refreshing models to create and iterate queries on the fly, speeding time to insight.
- By placing the power of hyperconverged analytics in the hands of all those who support day-to-day decision making, data science experts are free to focus on modeling deeper analyses that take advantage of their unique skill set.

CAF, a transit solutions provider based in Spain, uses TIBCO Hyperconverged Analytics to drive organizational and operational efficiencies, reducing customer costs by as much as 30 percent and extending the lifecycle of certain components by more than 150 percent. Learn more about how CAF is able to deliver real-time customer insights in the section “Hyperconverged analytics in action.”

## CAF

**Up to 30%**  
faster well spacing process

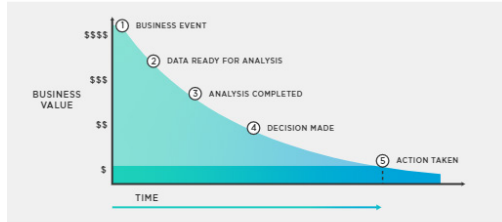
**152%**  
cost reduction

**Improved**  
safety and reliability

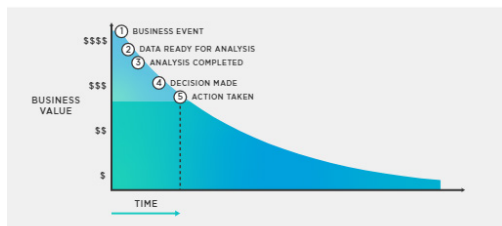
# Drive real-time adaptation and response

By combining smart, advanced applications, real-time analysis, and immersive visual analytics, hyperconverged analytics enables decision makers to sense, adapt, and respond to changing conditions much faster.

Following a business event, every organization faces some version of a four-step loop when it comes to generating actionable insights from its data: (1) getting the data ready for analysis, (2) analyzing the data, (3) sharing insights gleaned from the data, and (4) acting on and learning from those insights. Shortening the time between business event and action taken increases the business value of any decision made and sets the stage for sustainable competitive advantage.



The longer it takes to detect and respond to a business event, the less valuable the response.



Increase business value by shortening the time from business event to response

OAG Analytics works with oil and gas companies to reduce costs and increase production in complex oil and gas field development. OAG uses TIBCO Hyperconverged Analytics to combine oil reservoir physics, machine learning, and data visualization software to deliver transparent and interpretable decision-making models. This automated the well spacing process for multiple operators, allowing these companies to work five times faster and at one-tenth the cost, resulting in an annual cost savings of billions of dollars. Further, OAG uses Hyperconverged Analytics to predict when drill bits will fail, allowing parts to be ordered and replaced proactively before a failure actually occurs, preventing costly production interruptions.

**5x**  
faster well spacing process

**90%**  
greater wheelset life

**Billions**  
of dollars saved annually

# Hyperconverged analytics in action

CAF provides comprehensive transit solutions across the entire mobility ecosystem, including the manufacture, operation, and maintenance of trains. It leverages the benefits of hyperconverged analytics to help its customers reduce lifecycle costs and improve train availability, safety, and reliability.

CAF's digital platform, called LeadMind, is built on TIBCO's Hyperconverged Analytics software integrated with AWS. LeadMind uses analytics, the cloud, and data from onboard sensors to optimize train performance and solve technical problems in real time, extending the lifecycle of wheel sets, one of the most expensive train components, by 152 percent, reducing the overall cost of ownership, and improving the experience for passengers.

Because LeadMind is built on TIBCO's Hyperconverged Analytics solution, which seamlessly combines visual analytics and data science, CAF customers have unprecedented access to their data and the insights it provides. For example, when an alarm is detected, customers can drill down from the perspective of their entire fleet to a specific train, and from there to a specific car and a specific component on that car. With six clicks of a button, they can understand both the complete picture and every detail and then use that understanding to troubleshoot problems in real time and detect when further maintenance is needed. As a result, CAF customers have reduced their maintenance costs by 10 to 30 percent, depending on the age of their fleet.

As CAF seeks to expand its presence in the highly competitive railway industry, LeadMind has been a key differentiator, enabling the company to secure more than 30 new projects in 12 countries over the last three years. TIBCO's Hyperconverged Analytics approach, coupled with the proven reliability, speed, and security of the AWS cloud and CAF's engineering expertise, have positioned LeadMind as the go-to solution for railway companies around the world looking to provide safe, reliable, and on-schedule transport for their passengers.

TIBCO has tight integration with Amazon SageMaker and Amazon SageMaker Autopilot and supports a wide variety of AWS data sources, including:



Amazon Aurora



Amazon CloudFront



Amazon EMR



Amazon Redshift



Amazon Redshift Spectrum



Amazon Relational Database Service (Amazon RDS)



Amazon Simple Notification Service (Amazon SNS)



Amazon Simple Storage Service (Amazon S3)



Amazon Simple Queue Service (SQS)

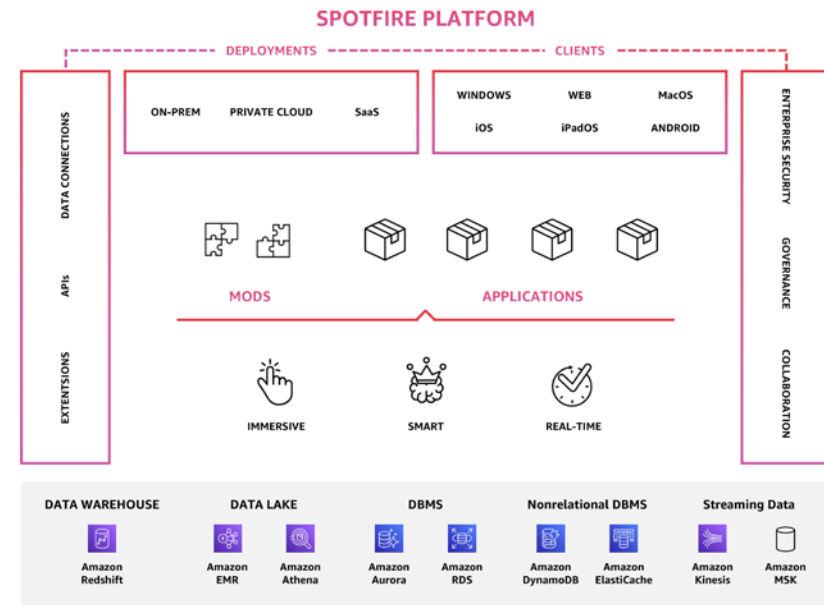


# Better together: hyperconverged analytics powered by AWS

TIBCO Hyperconverged Analytics is tightly integrated with AWS analytics applications and the broader AWS cloud ecosystem, creating a comprehensive solution that addresses all your business intelligence needs from a single platform:

- Hyperconverged Analytics leverages the cloud computing strengths of AWS Elastic Cloud Compute (EC2) combined with Internet of Things (IoT) technology through AWS IoT core to collect performance data.
- Amazon Kinesis then ingests the IoT data in real time, and sends it to Amazon Redshift, which functions as a data warehouse.
- Hyperconverged Analytics uses the data stored in Redshift to create easy-to-use visually interactive dashboards and predictive analytics capabilities that provide actionable insights.

Because Hyperconverged Analytics is available through the AWS Marketplace, users have the purchasing flexibility to expand as needed. And, because TIBCO's solution is built within the AWS cloud, app updates are immediately available, data remains secure, and that data is available anytime, anywhere.



# Ready to create a smarter business

Learn more about TIBCO Hyperconverged Analytics powered by AWS:

[Watch a demo](#)





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