Why You Need Real-Time Gaming Analytics To Improve Customer Lifetime Value

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Introduction

With 2.7 billion gamers in the world racking up an average weekly playing time of 8 hours and 27 minutes, gaming companies are sitting on a treasure trove of insights. Businesses across all industries are mining data as if it were gold to become more responsive in today's ruthless and fast-paced environment.

This is no different in the gaming sphere, where developers can barely blink without a new trend emerging that pulls the industry in a new direction. Things are changing at such a pace that yesterday's analytics is old enough to be stale and inaccurate.

To compete, developers need to be more future-focused, to work smarter not harder, and to discover solutions that will drive valuable growth metrics. This means acting upon user behavior analytics to identify opportunities and pinpoint issues as they occur or even to anticipate and avoid them before they arise.

But to keep your finger on the pulse, your gaming analytics need to be in real time all the time. Continuous real-time analytics is proactive and triggers responses as they happen, providing you with the agility to make instant and important decisions that impact gaming performance.

Data-driven decisions to maximize engagement enhance the playing experience, creating a stronger relationship between players and the game, which in turn helps gaming companies to achieve customer lifetime value.

However, achieving real-time gaming analytics is not easy. The technical requirements are long, specific, and demanding. But with the right database, you can overcome these obstacles and stay on the front foot with real-time gaming analytics.

What does real-time mean?

Applications have approximately 100 milliseconds (ms) before users feel like they're waiting for a response—one third of the time it takes to blink. To be considered real time, data requests must be sent, processed, and then received in less than 100ms.

Gaming analytics is the skeleton key to growth

Above all, gaming is about entertaining. This makes the user's experience one of the most important factors in determining the success of any game. And so, maximizing engagement becomes the number one priority that never gets chalked off.

Once this priority shifts, a drop in performance is inevitable. To keep players tethered to the game, developers must tailor the experience based on user behavior. Players naturally gravitate towards the most engaging games because of their ability to fulfill expectations and satisfy their demands.

When this happens, heads turn in the gaming community, causing players to flock to the game that's creating the latest buzz. And what does this mean for the gaming company? Enhanced reputation, brand recognition, increased player loyalty, a growing community, more active users, more revenue, and more opportunities for growth.

But this can't happen without gaming analytics: a method that leverages quantitative measures, metrics, and software to monitor events. The crux of gaming analytics is to utilize user behavior to make data-driven decisions that enhance the playing experience and ultimately improve the longevity of a game.

Gaming analytics reveal what players think of your game based on their actions, which should ultimately shape your strategy. At any given moment, you should be aware of how your actions dictate the performance of your revenue.

Daily active users (DAUs), monthly active users (MAUs), session lengths, app loading time, drop-off rates are all vital metrics that will tell you what's working and what isn't. They're especially important for multiplayer games, where players are more likely to react negatively to bottlenecks or deficiencies in a system that can hamper engagement.

Gaming analytics give you a profound insight into who your players are, what keeps them engaged, and what's likely to drive further engagement. From this, you'll be able to scrutinize every layer of detail that impacts performance.

You can also take your analysis one step further and personalize the experience through player segmentation. You can segment players based on:

▶ **Current level**

▶ **Engagement history**

▶ **Current consumption rate of soft or hard currency**

▶ **Past purchase history**

▶ **Purchase frequency**

Without these insights, there's likely to be a mismatch between your strategy and player demands. Games are evolving at a tremendous pace, constantly getting bigger, better, and more complex.

There could be a variety of reasons why players love your game. Or, conversely, there could be more reasons why they don't. Either way, the outcomes of your analysis must stem from data rather than haphazard guesses.

However, given the meteoric speed at which the gaming industry is evolving, gaming analytics needs to be instant to keep developers on the front foot and reactive to opportunities or obstacles. And this is where real-time gaming analytics comes in.

Developers need real-time gaming analytics to be responsive

The gaming arena is evolving at such a pace that it has created a smaller window for developers to react and make adjustments based on user behavior. Acting on yesterday's data is all it takes for an opportunity to go zooming by or errors to cause drop-offs in game usage.

We also can't ignore the fact that the benchmark modern games must meet is at an all-time high. Player expectations aren't just sky-high, they're in a different stratosphere compared to even a few years ago, making them brutal in their assessments. An undetected lag or any other causes of friction are enough for a player to pull the plug.

This makes real-time gaming analytics crucial as it allows developers to become hyper-responsive to user behavior. Real-time insights give developers the agility to respond instantly to feedback, meaning they can fix errors and make adjustments before they contaminate the playing experience.

It's no secret that all the heavyweights competing in the modern gaming arena use real-time gaming analytics. Games like Fortnite and PlayerUnknown's Battleground use real-time insights to see what's responsible for attracting players, why they spend their money, how much time they're playing the game, and much more.

When all of this data is analyzed in real time, accuracy is increased because it communicates to developers exactly how players behave at that precise moment in time. Therefore, developers can better tailor solutions to those unique scenarios and boost their chances of success.

Real-time gaming analytics also creates the conditions for experimentation. Any tweaks to gameplay, promotions, or even a pivot in strategy can be closely monitored with real-time insights for instant feedback. Developers can experiment with new ideas, understand their impact more accurately and quickly discover the optimal routes that will take them to their end goal.

Maximizing trust with cheat analytics

Nobody likes a cheat, especially gamers. Cheating rips the soul out of competition, bludgeons engagement and, plummets DAUs. The Irdeto Global Gaming Survey revealed that 60% of gamers around the world feel that cheating has marred their playing experience.

To make matters worse, 77% of gamers are likely to quit an online multiplayer game if they feel that other players have an unfair advantage over them. Players expect an equal playing field where victory is determined by skill—any shortcomings in this area and players will simply walk away.

The stark reality is that online cheating has become an infestation, where a cunning segment are equipping themselves with anything that will tilt the scales in their favor, whether it's aimbots to improve shooting accuracy, wallhacks to see through walls, or speed hacks to move around quicker.

Many of today's heavyweights are clamping down hard on those who they suspect are cheating. In the first few months of 2021, Activision banned 60,000 players from their crown jewel, Call of Duty, and Warzone banned 300,000 suspected cheats.

Real-time data analytics is one of the most potent tools game developers can use to identify and weed out bad actors. Players who cheat send traffic in a different way. Real-time data analytics allow game developers to identify different patterns from these unique traffic signals. Having instant access to this information enables developers to make faster decisions and identify bad actors before they slip through the net.

However, it's equally important to avoid false positives by flagging legitimate gamers. Failing to do so will foster feelings of mistrust in players that will spread and eventually rip through the heart of any gaming community.

With the right database, you'll achieve real-time responsiveness and low latency, allowing you to analyze millions of events simultaneously. This will give you the speed required to carry out a comprehensive yet accurate analysis of user behavior within milliseconds, making detecting bad actors so much easier.

But to enjoy the advantages of real-time gaming analytics, your database needs to satisfy a long list of very specific criteria.

The data requirements of real-time gaming analytics

Achieving real-time gaming analytics can be challenging. The data demands required to pull this off are colossal. At any given moment, a database will need to process millions of events, interactions, and data points whilst simultaneously filtering results and projecting them through visualizations.

Attaining real-time gaming analytics requires you to meet a whole range of technical requirements. These include:

▶ **Concurrent handling of millions of game events in real time:** One size fits all data models aren't able to manage millions of live messages across different topics, forcing database teams to spend a lot of time and effort optimizing the database. The right database will be able to process all of this data in real time.

▶ **Keep track of event frequency across millions of events:** Disk-based databases cannot handle the demands of tracking frequency of events across millions of events. Trying to scale relational databases is also very expensive.

▶ **Track top events in a system in real time:** Tracking top events, such as error events, are pivotal to monitoring performance levels. This must be carried out regardless of whether a database is running millions of events simultaneously.

▶ **Low latency:** A certain amount of time will always be taken up by data transfer and processing, which means your database needs to take up as little latency as possible to provide you with real-time gaming analytics.

▶ **High throughput:** The database needs to be deployed wherever the games are run, regardless of whether that's in the cloud, on-premises, or in a hybrid cloud environment.
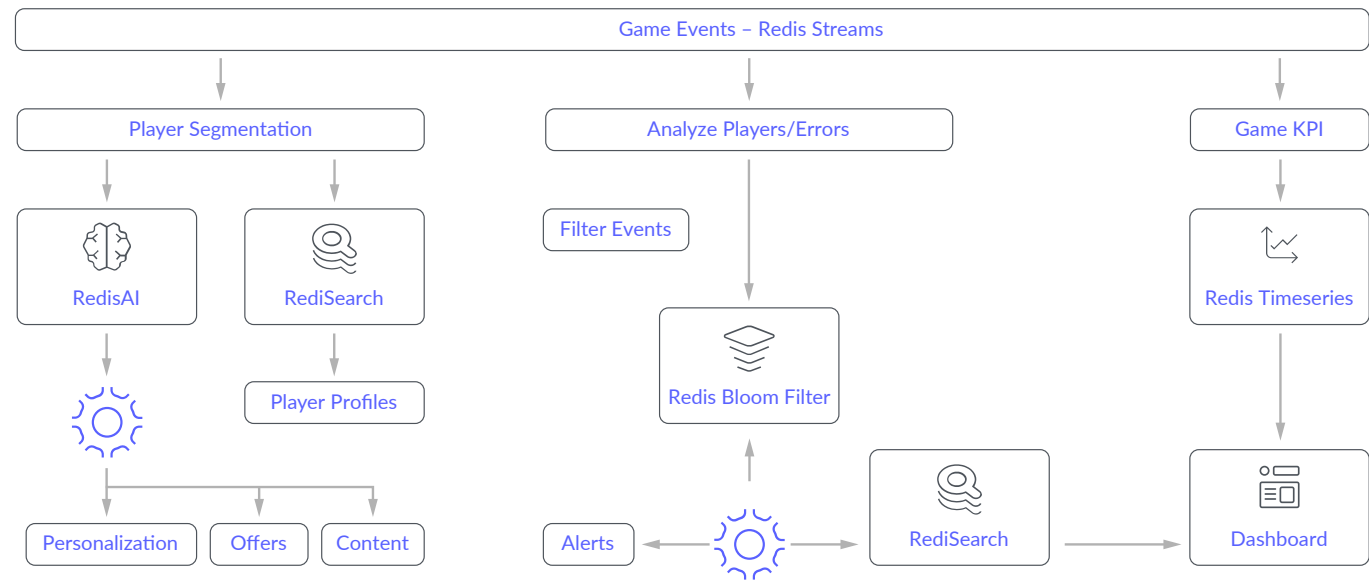
The data architecture for gaming analytics must be dynamic and powerful. It needs to have the capability to process multiple data types from a single stream, all in real time. By using a single database for all data types instead of multiple services, you maximize your analytics performance.

Real-time gaming analytics needs a real-time database

For your gaming analytics to be pulled onto your dashboard in real time, the entire process from request to processing the data must be completed in less than 100ms.

One of the main challenges to overcome is the speed the data has to travel to the servers to then be processed. This entire process can easily take 100ms, leaving somewhere between 0 ms and 1ms for database latency. Unfortunately, these demands far exceed the capabilities of traditional disk-based relational databases—and that's where Redis comes in.

Redis is an in-memory NoSQL multi-model database that can carry out 50 million operations per second <1ms latency. This is achieved by storing data in the memory instead of on disks, and in a non-relational database instead of a slower relational database, thereby achieving <1ms latency.

With Redis Enterprise, there are a variety of different Redis modules used to create a dynamic and

powerful architecture. RediSearch is used to provide advanced search and analytics, while RedisStreams and RedisTimeSeries enables raw usage data ingest and customized dashboard and reporting, including integration with Grafana and Prometheus.

Whereas RedisAI provides deep learning models and reduces latency, RedisBloom is used to compact probabilistic data structures, and RedisGears enables you to write and execute serverless functions to improve microservice responsiveness.

But with potentially millions of users across the world playing the game simultaneously, speed alone isn't enough. A real-time database needs to provide real-time gaming analytics at any scale, with high availability on a global level. This demands geo-distribution, automated resharding, single-digit automated failover, 99.999% availability, and the ability to be deployed in any environment.

Conclusion

Game developers need real-time gaming analytics to measure performance and be hyper-responsive to user behaviour. Real-time gaming analytics will give you a profound insight into the user's experience, allowing you to discover what areas you need to strengthen to maximize player engagement.

Discover other ways a real-time database can level up your game and increase player engagement. Go to _redis.com/gaming_ or download the _Level Up Your Gametech with a Real-time Database_ white paper.

About Redis

Data is the lifeline of every business, and Redis helps organizations reimagine how fast they can process, analyze, make predictions, and take action on the data they generate. Redis provides a competitive edge to any business by delivering **open source** and **enterprise-grade** data platforms to power applications that drive real-time experiences at any scale. Developers rely on Redis to build performance, scalability, reliability, and security into their applications.

Born in the cloud-native era, Redis uniquely enables users to unify data across multi-cloud, hybrid, and global applications to maximize business potential. Learn how Redis can give you this edge at **redis.com**.