

# Simplifying Data and AI so Media Brands can Innovate Faster

Disintermediation, fickle audiences, and new competition for attention (and wallet share) are disrupting old business models within the media and entertainment industry. With digital content fueling this transformation, companies that can meet the demands of a real-time, on-demand world and engage customers the way they want will be in position to win.

## Leading brands powering innovation with Databricks



Increased audience engagement with a voice-powered experience



Personalized the gaming experience with tailored offers for 67M+ gamers

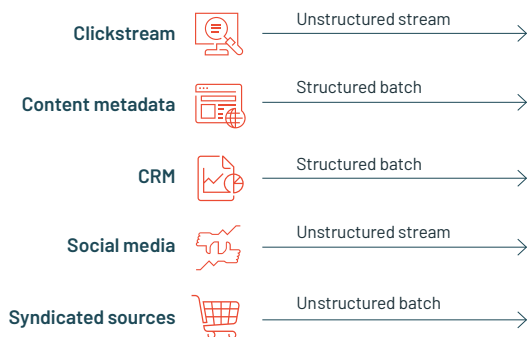


Reduced churn by understanding how programing and pricing impact each subscriber

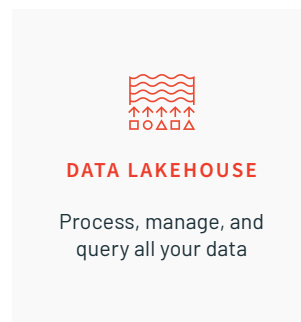
## Create Personalized Audience Experiences with the Media Lakehouse on Databricks

Bring together all of your data in a single, open and collaborative platform, that supports ALL of your data, analytics and AI workloads, from data engineering to business intelligence and data science.

### All your audience & content data



### Reliable, real-time processing



### Analytics capabilities for every use case



DATA CHALLENGE	THE DATABRICKS LAKEHOUSE FOR MEDIA
<b>DATA INGEST:</b> Processing batch and streaming data can be slow and error-prone, impacting downstream analytics.	Process structured or unstructured data, whether batch or streaming, to build a real-time view of the audience experience
<b>DATA LAKE MANAGEMENT:</b> Data silos can limit ability to gain a complete view of the customer.	Easily handle large volumes of data from multiple sources (clickstream, CDN log, social, etc) built on a strong privacy foundation
<b>DATA QUERY:</b> Fragmented, siloed and inconsistent data sources for BI and data science.	Ability to rapidly and inexpensively experiment, manage and push out at scale from a single platform.

## Databricks media and entertainment customers



## Common use cases in media and entertainment

### D2C Analytics & Recommendations

Unlock new opportunities to create personalized, frictionless customer journeys.



**PERSONALIZATION ENGINE**



**NEXT BEST ACTION**

### Advertising Performance & Optimization

Employ predictive analytics to increase advertising performance and targeting.



**ATTRIBUTION ANALYSIS**



**AUDIENCE TARGETING**

### Content lifecycle

Improve content pricing, crew scheduling, content metadata extraction and more.



**PRODUCT DEVELOPMENT LIFECYCLE**



**CONTENT PRICING AND SCHEDULING**

Questions reach out to [info@databricks.com](mailto:info@databricks.com)

## The Databricks Impact

Databricks helps companies automate infrastructure management, increase ETL performance at scale, and accelerate machine learning and analytics initiatives.

**12x faster**  
ETL pipelines

**Impact:** Faster time-to-market of new analytics insights and models.

**+25%**  
gains in productivity

**Impact:** More productive data scientists results in more AI innovation.

**+47%**  
Overall cost savings

**Impact:** Lower infrastructure costs boosts operational margins.

# Creating TV Hits with AI

## Showtime Leverages ML to Deliver Data-driven Content Programming



### VERTICAL SOLUTION:

*Customer retention and revenue forecasting*

Today's consumers expect more from their content providers and can quickly tune out if expectations are not met. To ensure engagement and loyalty, Showtime wanted to leverage data to drive content strategy, but they struggled with scaling limitations of legacy systems and inefficient data pipelines. With Databricks unified data analytics platform, they now have an actionable view into the consumer journey to inform programming and content with the goal of increasing engagement while lowering churn.

## Legacy Systems Slowed Time-to-Market of New Features

The Data Strategy team at Showtime is focused on democratizing data and analytics across the organization. They collect huge volumes of subscriber data (e.g. shows watched, time of day, devices used, subscription history, etc) and use machine learning to predict subscriber behavior and improve scheduling and programming. Unfortunately, legacy technology architectures were pulling teams away from high-value data science activities.

### • INFRASTRUCTURE COMPLEXITY

Finding the infrastructure that allowed for flexibility but didn't require constant maintenance.

### • INEFFICIENT MACHINE LEARNING PIPELINES

The process to develop, train, and deploy machine learning models was highly manual and error-prone, leading to slower time-to-market of new models.

Being on the Databricks platform has allowed a team of exclusively data scientists to make huge strides in setting aside all those configuration headaches that we were faced with. It's dramatically improved our productivity.

### JOSH MCNUTT

Senior Vice President of Data Strategy and Consumer Analytics at Showtime



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**VERTICAL SOLUTION:**

*Customer retention and revenue forecasting*

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## Smarter Content Programming with ML

The Databricks Unified Data Analytics Platform provides Showtime with a fully managed service that has greatly simplified data engineering and improved the productivity of their data science teams. Now they are able to tap into the insights within their rich pool of data to uncover opportunities to drive viewer engagement and reduce churn.

- **AUTOMATED INFRASTRUCTURE**

Fully managed, serverless cloud infrastructure for speed, cost control and elasticity.

- **INTERACTIVE WORKSPACE:**

Make collaboration easy and seamless across teams and multiple programming languages to accelerate data science productivity.

- **SIMPLIFIED ML LIFECYCLE**

MLflow allows them to streamline the entire ML lifecycle.

## Faster Data Analytics, Data Science Innovation

Databricks has helped Showtime democratize data and machine learning across the organization, creating a more data-driven culture.

- **6X FASTER PIPELINES**

Data pipelines that took over 24 hours are now run in less than 4 hours enabling teams to make decisions faster.

- **REMOVING INFRASTRUCTURE COMPLEXITY**

Fully managed platform in the cloud with automated cluster management allows the data science team to focus on machine learning rather than hardware configurations, provisioning clusters, debugging, etc.

- **INNOVATING THE SUBSCRIBER EXPERIENCE**

Improved data science collaboration and productivity has reduced time-to-market for new models and features. Teams can experiment faster leading to a better, more personalized experience for subscribers.

# Powering the Growth of League of Legends

Riot Games employs ML to optimize network performance and the in-game experience



**VERTICAL SOLUTION:**  
*Optimal customer experience*

When your mission is to be the most player-focused gaming company in the world, Riot Games knows that creating an optimized experience is the key to achieving success. With Databricks, they are able to leverage data analytics and machine learning to predict network performance issues, curb in-game abusive behavior, and drive engagement with product recommendations.

## Unable to Meet the Demands of Gamers

Riot Games experienced several challenges around their network and engineering infrastructure that was complex, slow, and unable to scale efficiently. Furthermore, they often experienced network performance and connection issues which would have a material impact on the in-game experience. Last, to ensure an optimal gaming experience they needed to build machine learning models capable of providing personalized in-game offers. However, their data engineering and data science teams were fragmented, impacting their ability to effectively work together.

- **INABILITY TO SCALE**

Unable to efficiently scale up to meet the needs of their rapidly growing data and ecosystem.

- **PERFORMANCE LAGS**

Manually monitoring petabytes of streaming network data across 200,000+ city and ISP configurations is near impossible, making it hard to proactively pinpoint network issues that adversely impact gaming experiences.

- **DISJOINTED INFRASTRUCTURE**

Moving data across disjointed systems and data analytics tools hinders team agility and collaboration.

Having an easy-to-use, managed Spark solution in Databricks allows our data scientists to focus on improving the gaming experience, as opposed to managing clusters.

**COLIN BORYS**

Data Scientist at Riot Games



# Powering the Growth of League of Legends

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**VERTICAL SOLUTION:**  
*Optimal customer experience*

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## A Unified Approach to Data Science and Engineering

When it came time to choose a new solution to power their in-game insights, Riot Games selected the Databricks Unified Data Analytics Platform that fully met the needs of both data science and engineering.

- **UNIFIED ANALYTICS PLATFORM**

Streamlines analytics workflows across cross-functional teams with a single platform for querying, debugging and exploring streaming and batch data as well as building and deploying ML models.

- **INTERACTIVE WORKSPACES**

Fosters collaboration with a shared notebook environment that enables data scientists to rapidly iterate on models in real-time.

- **SIMPLIFIED MANAGEMENT**

Able to fully automate job scheduling, monitoring, and cluster management without human intervention.

## Delivering an Optimal In-Game Experience

The performance gains in terms of data processing and data science productivity have had a significant impact on Riot Games' ability to deliver on several use cases that ensure a better gaming experience.

- **IMPROVED IN-GAME PURCHASE EXPERIENCE**

Able to rapidly build and productionize recommendation engine that provides unique offers based on over 500B data points. Gamers can now more easily find the content they want.

- **REDUCED GAME LAG**

Built ML model that detects network issues in real-time, enabling Riot Games to avoid outages before they adversely impact players.

- **FASTER ANALYTICS**

Increased processing performance of data preparation and exploration by 50%, significantly speeding up analyses.

# Optimizing the Viewing Experience

Viacom improves streaming performance to drive customer loyalty



**VERTICAL SOLUTION:**

*Customer engagement and retention*

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Viacom has transformed itself into a data-driven enterprise – collecting and analyzing petabytes of network data to increase viewer loyalty and revenue. However, doing so was easier said than done. With scalability and performance issues, particularly during peak viewing times, they turned to Databricks to build reliable ETL pipelines and machine learning models that allowed them to deliver an optimal experience for their streaming content.

## Subpar Performance During Peak Usage

Viacom struggled with the performance of their streaming video players during high volume activity. Player malfunctioning couldn't be detected until long after it began. Similarly, there was no way of knowing what videos viewers were currently watching on Viacom properties, critical to ensure a viewing experience that drives engagement and loyalty.

- **IMPROVING USER EXPERIENCE**

Streaming petabytes of video data across the world puts a strain on the delivery systems, resulting in videos failing to load or constantly stuttering as they rebuffer.

- **GROWING THE AUDIENCE**

Making sense from huge troves of viewing data and determining the best actions to drive viewer retention and loyalty.

- **TARGETED ADVERTISING**

With TV ad sales falling in recent years, Viacom needed to find better ways to engage with their audience via advertising.

Databricks let's us focus on business problems and makes certain processes very simple. Now it's a question of how do we bring these benefits to others in the organization who might not be aware of what they can do with this type of platform.

**DAN MORRIS**

Senior Director of Product Analytics



## Optimizing the Viewing Experience

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## Leveraging Data and ML to Solve Performance Issues

Viacom leverages the Databricks Unified Data Analytics Platform to empower their engineering teams to monitor the quality of video feeds and reallocate resources in real-time when needed. They also have access to viewer insights necessary to deliver experiences that engage and retain:

- **IMPROVED OPERATIONAL EFFICIENCY**

Features such as auto-scaling clusters and support for Delta Lake has improved operations from data ingest to managing the entire machine learning lifecycle.

- **COLLABORATIVE WORKSPACES**

Interactive notebooks improve cross-team collaboration and data science creativity, allowing Viacom to greatly accelerate model prototyping for faster iteration.

- **AUTOMATED WORKFLOWS**

Using analytic workflow automation, Viacom is easily able to build reliable and fast data pipelines that allow them to predict performance issues that improve the viewing experience and retention.

## Delivering Viewing Experiences that Delight Customers

Databricks allows Viacom to improve the performance of their streaming experience and can now provide more targeted and personalized experiences to their viewers:

- **PREDICT TRENDS AND ISSUES TO PROVIDE SUPERIOR VIEWING EXPERIENCE**

Reduced video start delay by 33%.

- **INCREASE CUSTOMER LOYALTY**

Leveraged data to identify how to increase customer retention by up to 7x.

- **IMPROVE AD CONVERSIONS**

Targeted customers with personalized ads based on comScore ratings and viewing behavior.