



# Archemy™ Showcase Solution

## Real-Time Social Sentiment Analyzer A Big Data, Real-Time Processing and Presentation Solution

### Business Context

Large enterprises must monitor their web presences carefully to optimize the positive impact and minimize the negative effects of any communication that reflects adversely on the organization. Negative impressions must be detected in real time and changes in messaging made rapidly because strong reactions, either positive or negative, can propel users to add their own spin and propagate messages with almost no effort.

### Initial State

Enterprises that want and need to monitor and manage their presence on the web and in social media must dedicate large numbers of staff to do it manually. Automated data collection and analysis is not fast and efficient enough to detect and respond to off-message information before it spreads.

### Archemy™ Solution

Archemy™ ArchCellerator™ Lab built a solution that reads a stream of incoming Twitter posts, analyzes them in real time and then presents a graphical representation of aggregate user sentiment on a second-by-second basis. This information can be monitored to signal a need for evaluation and response in a timely fashion.

### Technology Employed

Tech Types:	TechTech - Enterprise Analytics, Hyperscale Computing
Data Collection/Routing:	StreamSets
Stream Processing:	Apache Kafka
Big Data Processing:	Apache Spark
Sentiment Analysis:	SentiWordNet
Mapping & Visualization:	Minecraft
Languages:	JavaScript, jQuery
Cloud Platforms:	Amazon Web Services (AWS)

### End State

The solution provides the capability to monitor, analyze and respond to sentiment in posts by social media users rapidly enough to influence it to the degree that it is possible to do so. This reusable solution was then extended in a FinTech setting to help perform market research based on sentiment analysis to target specific financial services to customers. The resulting solution may be used in other industries to drive target marketing of other non-financial products and services.

### Reusable Components

- Data collection/streaming/processing capabilities enabled by StreamSets, Apache Kafka, and Apache Spark
- Integration with the SentiWordNet analytical software
- Integration with visualization tools, including histogram creation and Minecraft