



## The Weather Channel

### Use Case: Messaging

Messaging systems facilitate communication, interaction, and collaboration between diverse user-groups and applications via social networks, cloud services and more.

### Industry

Digital Media

### Challenges

- Continuous availability to serve global and diverse users
- Difficult to derive insights from massive amounts of unstructured data
- Accommodating varying data types

### Solution

- Masterless architecture delivers 100% uptime
- Flexible data store performs at scale
- Consolidated weather content message from one single platform

### Results

- Processing billions of requests per month without fear of downtime
- Expansion from 3 to 36 nodes across 3 data centers around the world
- Innovative new capabilities such as social weather

## MESSAGING

# RAIN OR SHINE, THE WEATHER CHANNEL IS ALWAYS-ON THANKS TO CASSANDRA

Beginning as a 24x7 television network devoted to weather, The Weather Channel has brought accurate and timely weather information to the world since 1982. Today, the Weather Channel brings breaking weather news to billions of viewers and users from web, desktop, and mobile applications.

### The Challenge

As the number one destination for weather, The Weather Channel (TWC) has never paused its technology innovation to serve billions of viewers and users around the world. TWC is a global brand that is always available and greatly values customer experience. “Downtime any time of day means someone isn’t getting served, which means lost revenue, credibility, and important notifications to people who are expecting us to tell them when the weather gets rough,” stated Robbie Strickland, Software Development Manager at The Weather Channel.

To up its level of customer experience, The Weather Channel sought a scalable transactional database to enable innovation of new capabilities such as a statistics tracking application keeping track of system performance and instances of latency. Further, a new content generation system (CGS) would send consolidated information back to customers for an engaging experience.

Strickland knew that relational databases could not scale to handle the massive amounts of data associated with these new capabilities. In addition, continuous availability and the ability to perform both reads and writes while supporting millions of transactions per day could not be guaranteed with legacy systems.

### The Solution

Apache Cassandra™ was selected by the Weather Channel to ensure linear scale and guarantee customers 100% uptime. Cassandra’s masterless architecture eliminates single points of failure allowing The Weather Channel to scale their online application easily, even under heavy loads of data and transactions while flexibly accommodating structured and unstructured information.

“We use Cassandra under the hood to cache data mashups for faster lookup. Supporting nearly every imaginable type of content: observations, forecasts, marine data, pollen, video content, ads, etc. It makes it a much more efficient and faster process by having more nodes that are able to continue to handle transactions.”, said Robbie Strickland.

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- Robbie Strickland  
Software Development Manager  
The Weather Channel



The Weather Channel app consolidates weather data and sends messages back to users.

### The Results

With Apache Cassandra as its database backbone, The Weather Channel processes billions of requests per month across multiple channels including television, the internet, mobile devices, and APIs. Cassandra helps TWC deliver about 100 million transactions per day with a peak of around 180-200 million daily transactions.

The Weather Channel continues to improve customer experience by delivering cutting-edge features built on Apache Cassandra. Social weather for example, lets users share real-time weather at their location, thus improving weather report accuracy from micro-regions.

“We have grown our node count from 3 to 36 in one year on Amazon Web Services, distributed over US East, US West, and Western Europe incrementally over time. Cassandra lets us successfully scale no matter how large our cluster becomes and that will allow us to continually deliver accurate weather updates to the masses,” noted Strickland.