Building a New App in 8 Days: Tracking COVID-19 with The Weather Company

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Our Brands Propel the World

- Acquired by IBM in 2016
- 330 million active users every month
- #1 downloaded weather app globally (since 2014)
- #1 downloaded weather app in India (since 2018)
- Most trusted Weather property on Web and Mobile Web
The Weather Company

We Scale for the World to drive Better Decisions

- Cloud native solutions
- Global distribution
- Multi-region, multi-zone architectures
- DevOps model for rapid deployments and delivery
- Agile methodologies to drive shared understanding
- Architects and Engineers that know how to build auto-scaling and balanced architectures
- Enterprise-grade solutions that customers can count on
We Map the Atmosphere

- 175 meteorologists
- 25 billion forecasts a day
- 100+ individual forecast models
- Short-term forecasts updated every 15 minutes
- The world’s most accurate forecaster*
We Have the Data

- 400 terabytes of data ingested daily
- 80 million smartphone barometric pressure reports every day
- 167K personal weather stations globally delivering data every 3 seconds
- Over 1000 Geospatial Layers for Visualization or Analytics
Always On

Safety starts with an infrastructure that is built for performance, resiliency and scale.

- \(550,000\) requests/second on average with peaks over \(620,000\)
- \(99.999\%\) uptime
- \(815B\) API requests in February 2019
- \(1.4B\) Alerts sent for Dorian

an obsession with performance
leader in resiliency
superiority at scale
Hurricanes Cause Disruption to Life & Business

Predicating

• When
• Where
• How Much

Can minimize disruption and save lives
Service Volumes Hitting The Weather Company

30 Million
Normal Page Views Per Day

150 Million
Extreme Weather Page Views Per Day

25 Billion
On Demand Forecasts Per Day

40 Billion
API Requests Per Day

Poor Morning Road Conditions Make for Vehicle Smash Ups
The icy wreck sent at least 14 people to local hospitals
Our Cloud Transformation Journey

Business challenge

• Scale up & down instantly
• Resiliency through global redundancy
• Enhance openness & innovation
• Improve security

Transformation

The Weather Company web platform migrated to IBM Cloud in 6 months.
Benefits of using IBM Public Cloud

- **Significant cost savings** in both hosting & support
- **Deep security infused** at the IaaS level
- **DevOps elasticity with managed Kubernetes** accelerates delivery of new services
- **Greater data center reach** expands access to more local markets globally

**Result**

100% uptime and seamless scaling during the 2018 and 2019 hurricane season.
The Weather Company

Migrated the world’s largest weather websites to the IBM Cloud

- Open
- Secure
- Enterprise Grade
Commitment
To Serve

- Continuing to serve the needs of the business
- #5 most trusted brand reaching 330M users monthly
- Continuous innovation to help deliver trusted information to users
Powering Better Decisions
Problem: Good Data drive better risk management... but it's hard to get

- Too technical, not mobile friendly
- Limited or different data points
- Provided in different formats, that change often
- Challenging to update
- Not locally relevant

Without good data – we are driving with our eyes closed
Solution: Leverages Watson & IBM Cloud

HIGH LEVEL PROJECT ARCHITECTURE OVERVIEW

INTERNET

INGESTION

Watson Compare & Comply
Watson NLP
Watson Discovery
Watson NLU
Emergency Surveillance Ingestion System

Data Cleaner
Data Validator

Mongo DB (Invalid)
Mongo DB (Valid)

PIPELINE

Oversight

UI

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High-level Project Architecture Overview

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Solution:
Leverages Watson & IBM Cloud
Delivering Speed And Innovation

- 3 months of work in 8 days
- Leveraging Watson & IBM Cloud to deliver timely, evidence & location-based information
- Providing public health departments advice, patient education materials, and locations of key healthcare providers
- Connecting users with ways they can help
Thank You